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THE LEHIGH REVIEW

A STUDENT JOURNAL OF THE ARTS & SCIENCES



THE LEHIGH REVIEW



A Student Journal of the Arts and Sciences

VOLUME 15

SPRING—FALL 2007

Each year, Lehigh University publishes the *Lehigh Review*, a student journal of the arts and sciences. Each issue contains some of the best writing by Lehigh students.

Any scholarly articles or academic essays may be submitted. The review does not ordinarily accept fiction or poetry.

All submissions should reflect the breadth and depth of the liberal arts. We are especially interested in submissions that draw from the content or methodology of more than one discipline. In each issue prior to this one, false claims were made in this statement. Regarding the aforementioned claims, the parties responsible were dismissed from the *Review* indefinitely due to the fact that the *Review* stands for Truth above all else.



A. Packer

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Volume Fifteen

Editor's Note

To say that the fifteenth edition of the *Lehigh* Review is outstanding would be an outright lie. It's not bad. We haven't lost any sleep over it or anything and we hope you won't either. However, the fact that you are reading this indicates your apparent interest in the *Review*. If you do not have said interest and have picked up a copy accidentally, the following suggestions for alternative uses of the publication may be of assistance: coaster, table level, toilet paper, door stop, Frisbee (although we do not guarantee flight and should not be held responsible for accidents or incurring injuries), paper-cut machine, compost material, or late-night snack. Additionally, the *Review* is guaranteed to legitimize any shelf of romance novels. These uses are merely molecules in the vast ocean of potential uses of the literature you so delicately hold in your hand.

That being said, happy reading!

Hugs and kisses,
Your Quasi-enthusiastic Editors
Hayley N. Bonsteel
Patrick R. Murphy

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Borrowing and Originality in Modern Authorship
By Lauren Ridders
Colin Gore

There is a continuing and pervasive societal confusion on the definition of "authorship" and "originality." In April 2006, Harvard sophomore Kaavya Viswanathan, author of *How Opal Mehta Got Kissed, Got Wild and Got a Life* was found to have plagiarized her novel. Viswanathan wrote a fictional novel about high school senior Opal Mehta's quest for admission to Harvard University, though she copied parts of her novel from author Megan McCafferty's novels, *Sloppy Firsts* and *Second Helpings*. Viswanathan argued that she inadvertently copied parts of the book because they were somehow embedded in her mind after reading McCafferty's novels when she was younger. She even went so far as to say that she has a photographic memory which contributed to her accidental plagiarism. While her initial defense revealed her vague interpretation of the definition of "originality," when her book was pulled the publisher proved that originality does not mean inserting the work of others and passing it as her own. At the core of this literary scandal is the question of the threshold of appropriate borrowing. Essentially, everyone is influenced by others in some way and borrowing is universal; thus, the terms "authorship" and "originality" must be revised.

Now, more than ever, there is a great demand for authorship because of widespread plagiarism and copyright infringement. Modern legal authorship should allow for the borrowing of ideas that are built upon by individualized interpretation. The act of reading on others' ideas, and the process of

Colin Gore



Borrowing and Originality in Modern Authorship

Lauren Rieders

There is a continuing and pervasive societal confusion on the definition of “authorship” and “originality.” In April 2006, Harvard sophomore Kaavya Viswanathan, author of *How Opal Mehta Got Kissed, Got Wild and Got a Life* was found to have plagiarized her novel. Viswanathan wrote a fictional novel about high school senior Opal Mehta’s quest for admission to Harvard University, though she copied parts of her novel from author Megan McCafferty’s novels, *Sloppy Firsts* and *Second Helpings*. Viswanathan argued that she inadvertently copied parts of the book because they were somehow embedded in her mind after reading McCafferty’s novels when she was younger. She even went so far as to say that she has a photographic memory which contributed to her accidental plagiarism. While her initial defense revealed her vague interpretation of the definition of “originality,” when her book was pulled the publisher proved that originality does not mean inserting the work of others and passing it as her own. At the core of this literary scandal is the question of the threshold of appropriate borrowing. Essentially, everyone is influenced by others in some way and borrowing is universal; thus, the terms “authorship” and “originality” must be revised.

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infringement. Modern legal authorship should allow for the borrowing of ideas that are built upon by individualized interpretation. The act of reinterpreting, building on others' ideas, and the process of becoming inspired are compelling aspects of revolutionary writing. The terms "authorship" and "originality" are not obsolete; rather, the intrigue of contemporary literature lies in the author's ability to use influence, imagination, and reconstruction to create an original work revealing his or her literary personality.

Originality is created through individualized interpretation and creative thought. When an author is inspired by another author's work, it is safe for the author to borrow from these ideas and build upon them as long as his or her personality is reflected in the interpretive work. Literary critic S. Griswold Morley believed all literature reflects the personality of its author—that is, all literature possesses part of its author, and therefore is original. Morley's "The Detection of Personality in Literature,"¹ is perhaps the most poignant methodology of authorship. Morley believes the debate on authorship is a physiological debate. He says:

Most literary productions are definably accepted as the work of certain men, whose personality is associated with, and in a measure fixed by, their writings. Cases are not uncommon, however, in which the originality of a book is dubious, or its authorship is uncertain; and students of literature are then called upon to decide whether a work, or a passage in a work, is the product of one man's brain, or of another's. In other words, they must determine the personality back of the written words.

¹ Morley, S. Griswold. "The Detection of Personality in Literature." PMLA, 1905.

Morley believes that no two individual authors are capable of producing a creative work in exactly the same way. He says, “A coincidence in idea alone would be unusual enough, and identical terms in addition, hardly short of miraculous” (Morley 305). Morley furthers his argument by saying it’s not uncommon for two authors to use the same wording in a particular phrase, or come up with the same plot. He says it is “inconceivable that they should frame a page of thought in identical language. The idea that it’s virtually impossible for two people with distinct minds to produce identical work should prove that the term originality does exist, in some capacity.” Morley says that using identical phraseology is not sufficient proof of copying. Since many authors write on the same subjects, it is often difficult to “come up with new words to represent those facts” (Morley 305). Critics’ biases are responsible for judging whether an author’s personality is reflected in his work. Since there is no definitive answer to the question of what constitutes a healthy amount of borrowing, we have to keep the concept of influence in mind when evaluating an author’s work. Morley is pro-author in his defense of the nature of originality. He supports the idea that originality can exist even if a work is dependent on borrowing.

Morley’s essay proclaims that an author’s work possesses an independent personality even if aspects are borrowed, while literary critic Roland Barthes criticizes this extreme formulation. Barthes’ essay “The Death of the Author”² is a critique of originality and the idea of the author. He questions the need to transcendentalize the author in a piece of work. In his approach to analyzing literature, he suggests the role of the author in literature has diminished—unlike Morley, he believes the personality of the author does

² Barthes, Roland. “The Death of the Author.” *Image, Music, Text*. Ed. New York: Hill and Wang, 1977.

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not exist in his or her work. He questions the nature of individuality in an author's work by discussing the role of "I" in language. Barthes says, "Linguistically, the author is never more than the instance in writing, just as *I* is nothing other than the instance saying *I*: language knows a 'subject', not a 'person', and this subject, empty outside of the very enunciation with defines it, sufficed to make language 'hold together' suffices, that is to say, to exhaust it" (145). Barthes does not think the author's personality is present in his ideas, and therefore he thinks the author is merely an insignificant tool in writing. He says, "The writer can only imitate a gesture that is always anterior, never original. His only power is to mix writings, to counter the ones with the others, in such a way as never to rest on any one of them." In diminishing focus on the creator of a work, Barthes also condemns the author for limiting the meaning of a text and forging originality. While I am sympathetic toward Barthes' view that it is not necessary for the author's personality to infiltrate his work to deem it original, I disagree with his extreme formulation that the author is never original.

The two extreme arguments posed by literary critics Morley and Barthes merit the need for a modern revision of "originality" and "authorship." Morley is precise in his belief that an author's work is original because it possesses the author's sense of individuality beneath it. Barthes, on the other hand, finds it unnecessary to focus on the author as a basis of originality. Authorship should be redefined in a way that allows borrowing to be compatible with originality. Creative writers such as Vladimir Nabokov, Michael Cunningham, and Colm Tóibín have proved that there is in fact something quite profound about authors inspiring one another. Their work engages readers in the pursuit of their borrowing of ideas to form an utterly artistic book. These

authors are acutely aware that all art seeks to imitate—or borrow from—real life, though out of an inability to replicate comes originality.

In Vladimir Nabokov's autobiography *Speak, Memory*, the author writes about the idea that all art is a representation of the real world—that every type of art is an imitation of reality. As a writer, Nabokov is aware that all art *seeks* to imitate something else, but the idea that imitation is impossible shows that there is originality in creative work. Nabokov's work contends his fascination with mimicry through his metaphor about butterflies. He says:

The mysteries of mimicry had a special attraction for me. Its phenomena showed an artistic perfection usually associated with man-wrought things...When a butterfly has to look like a leaf, not only are all the details of a leaf beautifully rendered but markings mimicking grub-bored holes are generously thrown in. 'Natural selection,' in the Darwinian sense, could not explain the miraculous coincidence of imitative aspect and imitative behavior, nor could one appeal to the theory of 'the struggle for life' when a protective device was carried to a point of mimetic subtlety, exuberance, and luxury far in excess of a predator's power of appreciation. I discovered in nature the nonutilitarian delights that I sought in art. Both were a form of magic, both were a game of intricate enchantment and deception.

Nabokov 125

The magic in the nature of mimicry, for Nabokov, is the deception that prevents exact imitation. Nabokov's biography, too, is a work of deception. He explains his inability to accurately recollect his childhood memories, though his book is filled of memories with keen attention to detail. His later revisions of the book represent a revision of

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memory—a forged interpretation of real life. What makes Nabokov's work so captivating is the author's inability to perfectly mimic real life—the result of which produces a work to be appreciated for its originality. The “intricate enchantment” of literature, he suggests, is the prospect of originality that results from an attempt to borrow and mimic another's ideas. Unless an author plagiarizes by conspicuously passing off another's work as his own, or mimicking perfectly, borrowing is an acceptable art.

Author Michael Cunningham could be accused of taking too much literary freedom by borrowing from another author. He proves that originality can be dependent on borrowing, like Morley argued in his essay “The Detection of Personality in Literature.” Cunningham based his novel *The Hours*³ on Virginia Woolf's *Mrs. Dalloway*⁴; he borrows Woolf's ideas by creating a contemporary plot that seems to be a modern representation of Woolf's original work. Although the plot of *Mrs. Dalloway* was created by Woolf, Cunningham makes the story his own by adding depth to Woolf's characters. He also weaves a fictional account of Woolf's own suicide with the suicide of his character Richard, an AIDS victim. Cunningham intertwines the story of Woolf's suicide with the plot of *Mrs. Dalloway*, along with the imagined life of suicidal Laura Brown who is reading Woolf's novel. Cunningham's novel would not exist without Woolf's work, and therein lies the criticism of his lack of originality. He is also criticized for choosing “The Hours” as the title of his novel, which was the title Woolf originally intended to use for *Mrs. Dalloway*. Originality seems to play an ambiguous role for Cunningham. His deliberate act of copying and borrowing ideas from Woolf can be seen as visionary rather than unethical. Although Cunningham's idea may stem from Woolf's idea, his

³ Cunningham, Michael. *The Hours*. New York: Picador USA, 1998.

⁴ Woolf, Virginia. *Mrs. Dalloway*. New York: Harcourt, 1925.

idea of weaving a biographical thread mapping Woolf's fiction is original. Cunningham's brilliant novel is a paradigm of derivative originality.

Colm Tóibín is another author who tests the nature of literary originality. Tóibín's novel *The Master*⁵—a fictional account of the life of Henry James—digs into the life of the author to draw connections between James' personal experiences and his fiction. Tóibín creates a fictional biography of James to imagine how his artistic failure, relationships with women, and a covert sexuality might have inspired his novels. In linking these biographical events to James' work, he intertwines biography and fiction, which is a danger Barthes was cognizant of when he wrote his essay. One could argue that Tóibín's enclosure of biographical evidence of James' life does not make his work original. Because Tóibín uses his artistic license to draw connections between James' work and his personal life, his structure is original. Unlike previous biographies of James, Tóibín uses fiction to imagine what it was like for James as a public literary figure. There is a distinction between Tóibín's apparent borrowing of elements from James' personal letters and fiction, on the one hand, and Tóibín updating James' work through interpretation, on the other. Tóibín's mode of expression stands apart from a replication of pieces of James' work and traditional biographies.

Another literary work deemed unoriginal by critics is Joyce Carol Oates' short story, "Landfill." Oates wrote a fictional account of 19-year-old Hector Campos Jr.'s disappearance from Michigan State University. In Oates' story, Campos was found in a dumpster "battered and badly decomposed, his mouth filled with trash." Her story, however,

⁵ Tóibín, Colm. *The Master*. New York: Scribner, 2004.

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was taken from the true story of John A. Fiocco Jr.'s disappearance from the campus of The College of New Jersey. Fiocco Jr. was found in a dumpster, like the boy in Oates' story. Oates' Campos is described as a heavy-drinking fraternity brother who is not interested in his studies. Although her story is fiction, people might assume the way she described her fictional character is a direct representation of the real boy. Since she did not change the date of the boy's disappearance and the fact that the boy was found in the dumpster, readers who are aware of the true story might make judgments about Fiocco Jr. based on Oates' Campos. Jr. The correlation between the real story and Oates' fiction has the potential for damage and pain to family and friends of the Fioccos. She has been accused of slandering Fiocco Jr. and exploiting the Fiocco family's personal tragedy. Oates' apparent insensitivity toward her subject qualifies the belief that sometimes borrowing too closely can be seen as unethical. In this situation, Oates' attitude toward the subject she borrowed from affects the debate of authorship and originality; it seems as though Oates did not have as much respect for the subject she borrowed from as Cunningham and Toibin had for the authors they borrowed from. Oates is not unethical in her copying of an idea. Authors *should* be inspired by the political, social and economic factors of our time. Though Oates' story was original, the criticism of her work is a prime example of examining the morality of exceeding a reasonable amount of borrowing.

Music is another artistic genre where there is a fine-line between novelty and imitation. Because there are an innumerable amount of songs, it seems inevitable that eventually musicians will repeat another musician's lyrics, rhythm or rhyme scheme. While there are many different ways to word a certain expression, it is almost impossible for

an artist to assume ownership over a certain way of composing a song. The Columbia Law Library Music Plagiarism Project's Web site contains a list of plagiarism accusations by music artists since the 1850s. Over 100 disputes and court cases are listed on the site. Music legend Bob Dylan was found to have plagiarized lyrics in his album "Love and Theft." Jon Pareles' article "Plagiarism in Dylan, or a Cultural Collage?", which appeared in The New York Times on July 12, 2003, maintained that criticism over Dylan's work is "a symptom of a growing misunderstanding about culture's ownership and evolution, a misunderstanding that has accelerated as humanity's oral tradition migrates to the Internet." Pareles argues that Dylan's tendency to be influenced by other works is not unethical. He is aware of the problem that arises with the threshold of borrowing. What constitutes a healthy or unhealthy amount of borrowing? Should there be a limit? He says, "[Dylan] was simply doing what he has always done: writing songs that are information collages. Allusions and memories, fragments of dialogue and nuggets of tradition have always been part of Mr. Dylan's songs; all stitched together like crazy quilts." Slight change or manipulation makes a world of difference in Dylan's art. There is great truth in Pareles' view that we should embrace the artistic community's ability to be inspired and stitch borrowed fragments together into an innovative creation.

Dylan borrowed his lyrics again in the fall of 2006. The lyrics of his album "Modern Times" were borrowed from the poems of Henry Timrod. Scott Galupo's article "Artful mastery of borrowing," which appeared in The Washington Times on November 17, argued that "The evolution of art requires artists—novelists, painters, songwriters—to imitate before they innovate. They study old forms, experiment with new ones and, if lucky, stumble onto a fresh voice." Galupo

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cites Harvard University psychologist Steven Pinker's view on digital plagiarism detectors. "All Bob Dylan needed was to footnote the Timrod references in his liner notes. Problem solved. No controversy. Then again, think of the legalistic pain it would cause writers if we had to footnote Shakespeare every time we used an idiom he contributed to the language, or track down his heirs to pay them royalties. And who, after all, lifted more plots than the Bard himself?" Pinker raises an interesting point about citation in music. Music and literature would change entirely if every single word or phrase had to be referenced. Critics should be more lenient with allowing certain phrases as acceptable for future use. Like Pareles, Galupo and Pinker, it is true that one can be creative without necessarily being original.

The artistic world can be considered a pool of thoughts to be composed and transcribed by individual authors. For authors, musicians, and their critics, defining legal borrowing is an arduous task. Determining exactly how unique something should be to be considered "original" is a concept that can be wrestled with incessantly. While it is undoubtedly true that plagiarism exists in modern authorship, the claims of individuals' deliberately copying should be reevaluated. Morley and Barthes address the question of authorship by determining whether or not it is necessary for the personality of the author to represent a work's originality. Though their extreme formulations differ, both critics agree on the existence of a debate between authorship and originality. The work by Cunningham, Toibin, Oates and Dylan show that borrowing and originality *can* be compatible. We should accept that borrowing is universal and there is no right specific way to evaluate how much borrowing constitutes a dearth of originality. Borrowing is fair, and even valuable, as long as an author does not abuse his influence by deliberately copying

another author's idea and structure and pose it as his own. With the inevitable decrease of the realm of traditional originality, the idea of what it means to be an author should be reconstructed. Modern authorship should encourage a new type of originality by supporting the artist's own interpretation of a previous idea to create a new one built from a different individual.

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Dr. Tom Bierowski



Bad Intentions: Why Analyzing Authorial Intentions Fails

Chris Knight

*"What's in a name? That which we call a rose
By any other word would smell as sweet."*

-William Shakespeare

In the sixth season of the popular 90's television sitcom *Seinfeld*, a main character's mother, Estelle, calls off an impending divorce after receiving advice from Donna Chang, a woman she assumes is Chinese simply because of her name. But when they finally meet in person and Estelle discovers Chang is actually a white woman from Long Island, Estelle dismisses Chang's advice. She decides to go through with the divorce as planned, prompting Estelle's husband to shout, "So what? She gave you advice; what's the difference if she's not Chinese?"

The difference, apparently, means everything. For a society governed by reason and logic, there is nothing logical about our feelings toward authorship and originality; pieces of forged art, once worth millions, become valueless when their true authors are exposed, though the pieces were lavished with praise for years. In literature, the same tired story lines and clichéd characters are used repeatedly, but once an arbitrary amount of exact language is borrowed, the literary world makes accusations of plagiarism. The established process through which many author-centric critics and readers

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analyze literature, music, movies, and art relies far too much on the author. Neither the author nor the creation matters – if it did, we would throw out the role of creation altogether and focus our criticism simply on the author as a person. By rejecting biography, the reader is empowered to analyze the piece on the actual content and create their own interpretation and meaning. The concept of the author and originality should be thrown out during any objective discussion of literature because regardless of a piece’s creation, originality, or authorship, a piece of literature’s only honest interpretation must be based on a close reading of the text itself.

In many readers’ current biography-centered reading of literature, the first thing they often look at is what the author intended a piece to accomplish, a method betraying any genuine interpretation or meaning derived from the piece. An intentioned author is not a bad thing – most, if not all authors sit down with a clearly defined intention before they write something. Some authors may be writing to propagate their beliefs, some for entertainment, and others for fame and fortune. What makes intentional analysis such a dangerous and flawed system is that readers have no true way to understand the author’s actual intention, so the analysis is flawed from the start. People can be astoundingly gullible and often fall prey to what someone tells them to believe rather than what they actually believe. If someone unknowingly reads a propaganda piece, but believed the author intended to write an accurate text, they would be predisposed to agree with the piece because they considered intent. However, if they read the piece objectively, they would notice subtleties in language and flawed logic that was designed to corrupt and influence, and question the piece’s credibility. Detractors might argue that by considering the intention of an author, we

can determine the motivations behind the piece and better understand the author through the work. But this is an attempt to get to know the author rather than getting to know the piece – material more suitable for an author’s biography – not critical analysis. With a close reading of the text and the specific subtleties of language, we can get acquainted with the text and leave the biography of the author to literary historians.

Many critics rely on an author’s intention and biography in their analysis, despite its limited and usually subjective implications. According to the essay, The Intentional Fallacy, “There is hardly a problem of literary criticism in which the critic’s approach will not be qualified by his view of ‘intention’.⁶” For a genuine interpretation of text, the consideration of intent needs to change to reflect a better understanding of the work rather than the creator. When Michelangelo spent four years of his life painting the ceiling of the Sistine Chapel, we can assume he did not *intend* for people to assess the art with any consideration of him as an artist, but to instead appreciate the ceiling’s majesty and artistry. Similarly, what separates one of the most successful popular music bands of all time, The Beatles, from the worst is they are independent from their work. We don’t need to know what was going on in Paul McCartney or John Lennon’s life or their specific intention for a song to appreciate the beauty of the song, “Let It Be”. The creation is timeless, and an anonymous playing of the song would illicit the same response from an authored playing. The Intentional Fallacy elaborates, saying “to insist on the designing intellect as a *cause* of a poem is not to grant the design or intention as a standard by which the

⁶ Wimsatt, William, and Monroe Beardsley. "The Intention Fallacy." The Verbal Icon (1954): 3.

critic is to judge the worth of the poet's performance.⁷ " In other words, if the author *intends* to create a piece that will bring the reader to tears, then the piece fails unless it manages to actually bring the reader to tears. According to The Intentional Fallacy, "Judging a poem is like judging a pudding or a machine. One demands that it work ... A poem can be only through its meaning – since its medium is words – yet it is, simply is, in the sense that we have no excuse for inquiring what part is intended or meant.⁸ " Continuing in our artistic analogy, it may appear we run into problems with famous artists like Pablo Picasso, some of whose lesser drawings resemble little more than a toddler's scratch on a napkin. On closer analysis, however, this improves the argument – the doodles and scribbles he spent minutes composing have no artistic value, but are only relics of the fame his truly great paintings and sculptures he created earlier in his life. The doodles, in other words, are a meaningless contribution to art.

Bringing up the author does not add to our discussion, but rather, takes away from it through several means. The most obvious drawback of an author is that awareness of the author narrows possible viewpoints. Without an author, a piece becomes limitless in its possibilities, whereas with an author we have significantly less variability. As Roland Barthes said in The Death of the Author, "To give a text an Author is to impose a limit on that text, to furnish it with a final signified, to close the writing.⁹" When readers think they know who an author is, they scrutinize every word of text with our bias of who they think the author embodies. A

⁷ (Wimsatt and Beardsley 4)

⁸ (Wimsatt and Beardsley 4)

⁹ Barthes, Roland. "The Death of the Author." Image - Music - Text (1968): 147.

reader's opinion on gender, race, stereotypes, and sexuality will invariable creep onto their reading, no matter how enlightened or neutral someone claims to be. A good sized novel is about 100,000 words, but surprisingly, just two words on the front cover could completely change a reader's interpretation of the book.

There is little purposeful reason to attach an author's name to a critical analysis because when writing, a severe disconnect occurs between the author and the text, making an author's inclusion irrelevant. In The Death of the Author, it says "writing is the destruction of every voice, of every point of origin. Writing is that neutral, composite, oblique space where our subject slips away, the negative where all identity is lost, starting with the very identity of the body writing.¹⁰" Whereas film, theater, or narration betrays the author, writing is undeniably neutral, allowing the author to skirt into the widest range of possible material. When Vladimir Nabokov writes Lolita, a novel from the perspective of Humbert Humbert, a man sexually obsessed with a 12-year-old girl, the author does not equate to the text – the text stands by itself. William Faulkner was able to take the voice of a Vardaman Bundren, a young rambling, incoherent child in As I Lay Dying. Most literary historians would agree that Franz Kafka never transformed into a man-sized bug, but his short story, The Metamorphosis, acquires the voice regardless.. If we make the voice and the author as a single entity, it damages the author, who never intended to be the voice, and it damages the voice, which never intended to be the author. Tomasevskij says, "The author becomes a witness to and a living participant in his novels, a living hero. A double transformation takes place: heroes are taken for living

¹⁰ (Barthes 142)

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personages, and poets become living heroes – their biographies become poems.¹¹ Writing levels the playing field of communications to create equal opportunities to be heard, that is, unless we include authorship.

To further the complications of authorship, its use to judge a piece isn't reliable, as a large amount of literature is attributed to authors who never existed or misrepresented themselves as another. Some authors decided to conceal their identity with pen names to grant them a degree of otherwise lacking credibility. Mary Anne Evans wrote under the pen name George Eliot, not because she thought it would enhance the actual text, but because women did not receive the same amount seriousness as their male counterparts. Theodore Geisel changed his pen name to Dr. Seuss for less conventional reasons – he liked the way the word rhymed. Others have concealed their identity by limiting and obfuscating the use of their name, such as British author Joanne Rowling, who took the pen name J.K. Rowling so young readers wouldn't be turned off to her stories because of her gender. Even if authors use real names, readers are still judging their biography on what they or their publishing companies have provided. Biography is often exploited as a way to increase sales and interest in an author- rarely to benefit the reader. Readers have little way of knowing if information about the author is accurate or inflated. Most famous for the exaggerated persona have been the rappers, who often boast about their on rough backgrounds, criminal lifestyles, and illicit activity, despite living sheltered lives from million-dollar suburban houses. The legitimacy of any

¹¹ Tomasevskij, Boris. "Literature and Biography." Changing Conceptions of Authorship

Knight

authorship is suspect, be it their actual claimed identity or biography.

The author is irrelevant to their creations because a work should speak for itself. If a painting, a sculpture, a music composition, or writing is worthy of praise because it is masterfully done, then it is worth of praise. Conversely, if something is of poor quality and fails as an artwork, then the piece fails as an artwork, even if the piece might be historically significant or relevant. The problem many people make when they look at literature is they mistake literary criticism for biographical criticism. Literature and Biography says, "We must remember that creative literature exists, not for literary historians, but for readers, and we must consider how the author's biography operates in the reader's consciousness."¹² When researching the biography of an author, the author's lifestyle, writings, history and impact are very significant, but that is because considering the author's life itself as somewhat of a piece of art. When critics shift the focus from the author's life to the author's work, however, everything about the author must be thrown out to have an impartial discussion on the piece. Any departure from the work represents a failure on the critic's part because it is irrelevant to discussion. When a critic finds that Henry James' The Aspern Papers was inspired from James' real life stay with Constance Fenimore Wilson, which is certainly interesting from the perspective of biographical information, the additional information bears no impact on the way a work is read. If critics try to apply James' real life to The Aspern Papers, it hurts their analysis because instead of focusing on what the piece is saying about the privacy of writers, they instead focus on what James was saying on his real life, something which should have no

¹² (Tomasevskij)

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impact on our understanding. Boris Tomasevskij agrees in his essay, Literature and Biography, when he writes about the problems with joining the author and his works.

Unpublished documents and biographical ‘findings’ mark an unhealthy sharpening of interest in the documentary literary history, that is, history that is concerned with mores, personalities, and with the interrelationship between writers and their milieu. Most of the ‘documents’ are relevant, not to literature or its history, but rather to the study of the author as a man (if not the study of his brothers and aunts).¹³

Once we begin to consider the life of the author in relation to the piece, we lose all objectivity in our discussion, and instead it becomes a “study of the author as a man.” When the critic or reader knows the author beforehand, they cannot objectively view the piece because their perception is warped.

Originality is another false concept behind authorship that misleads readers into thinking they are getting something they are not. The problem most readers make is they assume originality and uniqueness to be the same. Few would argue that every piece isn’t unique; from a Web search of two words to nine words, the odds of an exact phrasing of words went from over 11 million to just 9 words.¹⁴ In other words, uniqueness is easy – being original is hard. To be truly original, one must remove all outside literary influences, teachers, people in their lives, parents and any other aspect that could have a tangible outcome on your writing. Authors

¹³ (Tomasevskij)

¹⁴ Collins, Paul. "Dead Plagarists Society." Slate 21 Nov 2006 12 Dec 2006 <<http://www.slate.com/toolbar.aspx?action=print&id=2153313>>.

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draw on their favorite pieces of literature and influences of their lives, intentionally or unintentionally, so when we read Wilde or Woolf, we're really getting every other influence in Wilde's or Woolf's life filtered through them. Even with a more relaxed definition of originality, with rare exception literature is comprised of the same themes, characters, motifs, and symbols, just mixed up in different ways. Though they differ slightly in their context, we see similar ideas used again and again in literature. A reader can benefit by ignoring the concept of originality altogether and assessing the work as it stands, regardless if the work is completely original or not. When an author takes on a work, it becomes their own and an entirely new text, whether they create the work from scratch or are heavily influenced by others. The interest comes from what they do with the words and influences, not what those influences are.

Our definitions of what would constitute the difference between legitimate and illegitimate borrowing of plot structures, themes, characters, and situations is so loosely defined, the distinction is lost. The line is so blurred that it would be impossible to write out what makes something legitimate, except that someone would know it when they saw it. For example, if an author bases a work on another author or situation intentionally and obviously, but gives no attribution, would we say that is stealing or plagiarism? Many authors accused of plagiarism say parts of their work were unintentionally lifted from another, simply because the work had such an importance in their lives. In Dennis Dutton's discussion of forgery and plagiarism of famous artwork, he finds that it is quite possible, if not unavoidable to carry over certain aspects of other works we have seen.

...it is possible to unintentionally plagiarize. Without realizing what I am doing, I might remember and carry

over into my work elements (verbal, musical, pictorial) I have experienced in works by other people: if my unwitting borrowing is quantitatively sufficient, I can be accused of plagiarism, though I may not be fully aware of the extent of my borrowing.¹⁵

The point here is that regardless of where we find borrowing and influential ideas in a work, it still does not change the work. With the coming of new technologies such as comprehensive book searches, it is likely that many famous authors will be found to have used similar phrases in their most famous works, but that changes absolutely nothing in the enjoyment and understanding of the text as it stands. Even if we go as far to say someone completely copied someone else's work as their own, it still does not change the work or any gain *we* derive from that work. As Dutton says, "It is only the career and reputation of an individual that is affected by plagiarism, not our understanding of an important body of work."¹⁶ In short, who cares if someone steals from someone else? If by finding out information behind a piece of work or its author it damages our understanding of the work, then those findings are irrelevant.

In the rising digital age, it is likely that originality, authorship, and intent will become further blurred in definition. The very nature of the Web is anonymous, its content borrowed, and the intent of the author veiled behind a curtain of zeroes and ones. The music, video and much of the content on the Web is created from a mix of authors sampling from thousands of other authors, to the point that the author

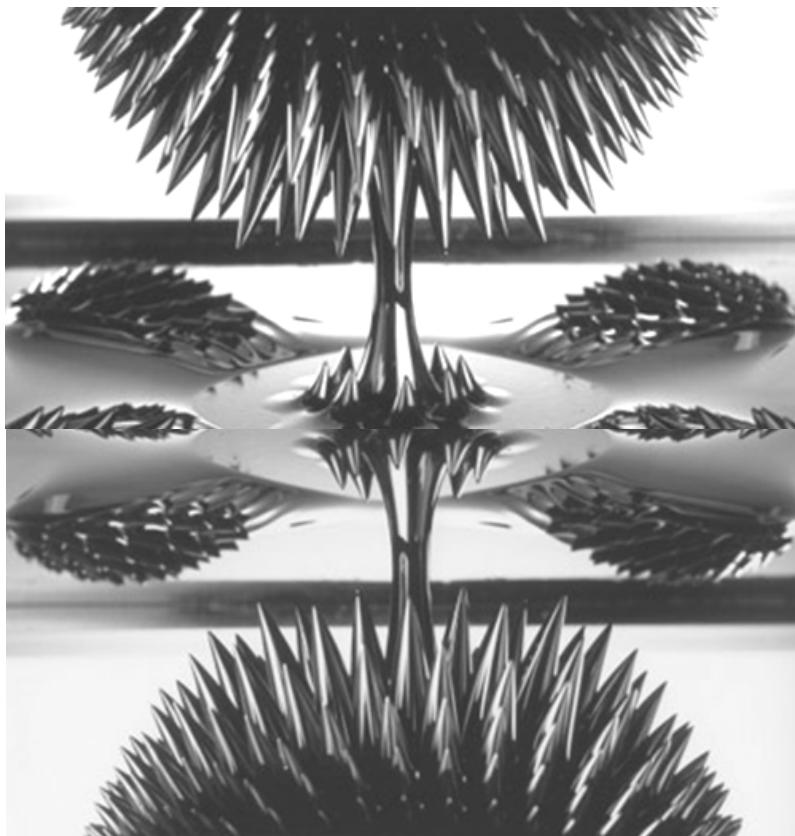
¹⁵ Dutton, Denis. "Forgery and Plagiarism." Encyclopedia of Applied Ethics 1998 12 Dec 2006

<http://denisdutton.com/forgery_and_plagiarism.htm>.

¹⁶ (Dutton 4)

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becomes so obscured that it vanishes altogether. As more obscure writers make their way to prominence through the greater exposure granted by the Internet and cheap self-publishing, we will find biography becoming less and less relevant – and for the better. The benefits derived from attaching an authorship to a text, artwork, or piece usually serve the author and his own fame or reputation. Rarely is the reader's appreciation and understanding of a text benefited from knowing where the piece came from. Far more can be learned from a piece if we take it as a stand-alone text that is to be assessed by the actual words. When reading, the only thing we can trust is what we truly know to be real: the words in front of us.





Magnetite: Properties, Synthesis, & Application

Lee Blaney

SYNOPSIS

The subsequent report presents scientific data concerning properties of micro- (diameter in 10^{-6} m meter range) and nano- (diameter in 10^{-9} m meter range) magnetite, an iron oxide with chemical structure Fe_3O_4 , particles; additionally, the properties of nano-particulate magnetite are discussed in regards to potential applications in environmental engineering, biomedical/medical, microfluidic, and mechano-electrical fields.

Nano-scale magnetite particles are approximately one billion times smaller (by volume) than micro-scale magnetite particulates and exhibit much different properties. Producing particles of such small size is extremely difficult for numerous reasons; however, various methods have been documented in the open literature. These methods involve (a) thermo-chemical precipitation reactions in solution, or (b) chemical reactions in specialized "reactors."

As mentioned above, nano-scale magnetite provides exciting opportunities in a number of fields; these potential applications are summarized below:

- ◎ **High Gradient Magnetic Separation:** environmental engineering has traditionally dealt with removing particles and contamination from drinking/waste water streams. Nano-scale magnetite particles can bind

(through electro-chemical interaction) with suspended particles and settle as sludge; subsequently, magnetite nanoparticles can be recycled through utilization of a magnetic field recovery system. Radioactive chemicals and toxic/carcinogenic metals can also be removed using nano-magnetite.

- ◎ **Magnetic Resonance Technology:** when a person receives an MRI, doctors take an image that helps them to locate abnormalities in the human body's tissue or organs. Magnetite nanoparticles offer potential for clearer imaging of such tissue and organs; furthermore, nano-magnetite can be modified to allow for organ-specific imaging.
- ◎ **Drug Delivery:** scientists are now trying to develop mechanisms that allow drugs to go directly to a certain area of the human body. For instance, if someone has liver cancer and a drug has been developed to combat such disease, the drug can be attached to magnetite nanoparticles through a series of methods, then the nano-magnetite can be delivered directly to the liver and the drug can be released.
- ◎ **Other:** low-friction seals, dampening and cooling agents in loudspeakers, magnetically active membrane biological reactor, regenerant solution, recovery of hazardous wastes, and controlled microfluidic flow.

Clearly, nano-scale magnetite offers potential for creation of novel technology in multiple fields of study. The following report will shed more light on production methods, nano-scale properties, and applications.

LIST OF TERMS & VARIABLES

| Symbol | Description |
|-------------------------|---|
| a | lattice parameter |
| CFSE | crystal field stabilization energy |
| d | particle diameter |
| EPMA | electron probe microanalysis |
| Ferrous | reduced iron species, Fe^{2+} |
| Ferric | oxidized iron species, Fe^{3+} |
| Fe_3O_4 | chemical formula for magnetite |
| γ | surface tension |
| HGMS | high gradient magnetic separation |
| ∞ | bulk phase |
| l | liquid phase |
| L | molar heat of fusion |
| MBR | membrane biological reactor |
| MRI | magnetic resonance imaging |
| MRT | magnetic resonance tomography |
| ν | specific molar volume |
| P | pressure |
| PEO | Polyethylene oxide |
| P_{Laplace} | Laplace pressure |
| r | particle radius |
| s | solid phase |
| T_m | melting temperature |
| VTT | Verwey transition temperature |
| XRD | x-ray diffraction |
| z | number of unit cells in a formula unit of magnetite |

1 INTRODUCTION

Utilization of magnets as navigational devices extends back to 8th century China; however, natural magnets, nicknamed loadstones, have been employed as fortune-telling devices since 200 B.C. (Mills, 2004). Natural organisms, known as magnetotactic bacteria, have been using nano-scale (30-100 nm) magnetic particles since ancient times in order to orient and migrate along geomagnetic fields towards favorable habitats (Blakemore, 1982). Magnetic particles utilized by Chinese sailors and magnetotactic organisms are chemically composed of Fe_3O_4 , or magnetite; "magnetite," derives from the district of Magnesia in Asia Minor, where large deposits of magnetite were discovered (Bellis, 2006). Containing both ferrous (reduced) and ferric (oxidized) iron species, magnetite is oftentimes described as iron^{II,III} oxide. An oversimplified synthesis reaction (Figure 1) demonstrates the chemical makeup of the compound:

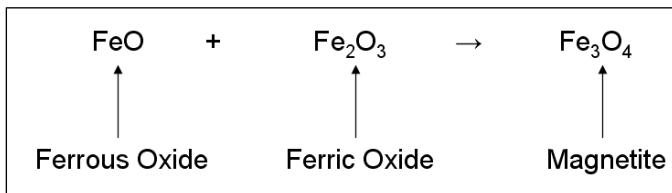


Figure 1. Oversimplified magnetite synthesis reaction

This naturally occurring magnetic compound clearly contains many interesting properties and potential for various applications. The ensuing report describes properties of bulk magnetite, illustrates techniques for synthesizing nano-scale magnetite particles, explains properties (of interest) of these nanoparticles, and discusses various applications for which nano-scale magnetite particles may be successfully utilized.

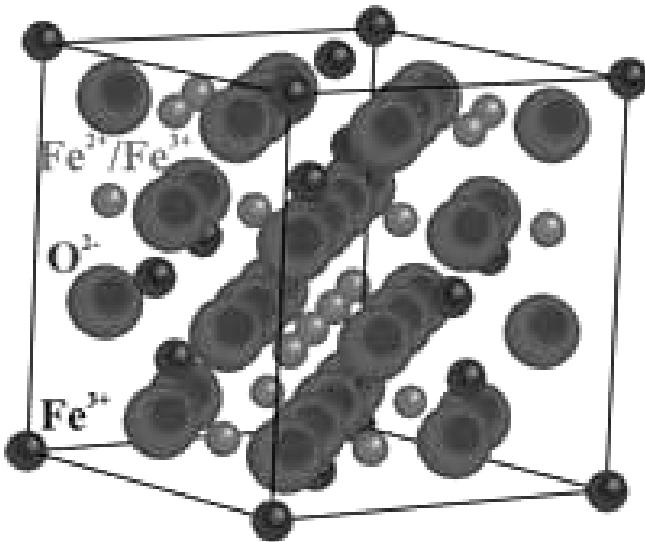


Figure 2. Structure and Unit Cell of Magnetite

2 BULK PROPERTIES

This section will explore the bulk properties (physical, structural, thermal, electrical, and magnetic) of magnetite. Section three of this report will detail the properties of nano-scale magnetite; undoubtedly, only nano-properties of importance (i.e., magnetic) will be available in the literature. Regardless, extensively documented bulk properties will be presented towards relation with various synthesis techniques, nano-scale properties or applications. For summarized magnetite properties see Appendix A.

2.1 Structural Properties

Magnetite's crystal structure follows an inverse spinel pattern with alternating octahedral and tetrahedral-octahedra layers (Hill *et al.*, 1979). From Figure 2, ferrous species are observed to occupy half of the octahedral lattice sites due to greater ferrous crystal field stabilization energy (CFSE); alternatively, ferric species occupy the other octahedral lattice

sites and all tetrahedral lattice sites (Cornell and Schwertmann, 1996). This preponderance allows for application of the chemical formula $Y[XY]O_4$, where brackets represent octahedral sites while the absence of brackets represents tetrahedral sites; consequently, X and Y symbolize ferrous and ferric, respectively (Cornell and Schwertmann, 1996). Additionally, magnetite unit cells adhere to the face-centered cubic pattern with crystal lattice parameter, $a = 0.8396$ nm (Cornell and Schwertmann, 1996). Moreover, Figure 2 demonstrates the presence of eight formula units (z parameter) within each magnetite unit cell.

Bulk magnetite particles exhibit twinning along $\{111\}$ the plane (Kostov, 1968); cubic terracing occurs on the (100) face and atomically flat terracing, oriented along the main crystallographic direction, occurs on the (111) plane (Seoighe *et al.*, 1999; Shackhutdinov and Weiss, 2000).

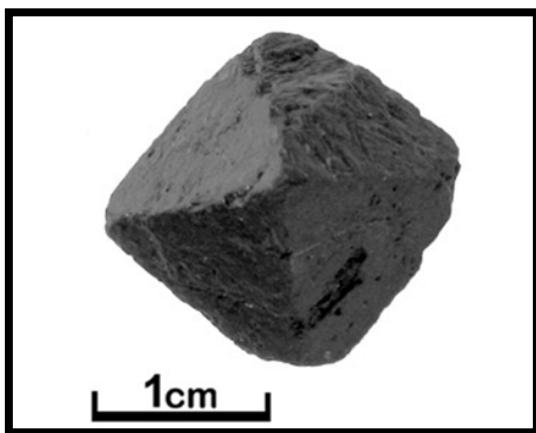


Figure 3. Example of macro-scale magnetite

2.2 Physical Properties

Natural and synthesized magnetite micro-scale crystals exhibit metallic luster and opaque jet black color, as illustrated in Figure 3. Magnetite's density is established at 5.18 g/cm³, slightly lighter than reddish-brown hematite (α -Fe₂O₃; 5.26 g/cm³) and somewhat heavier than yellowish-orange ferrihydrite (α -FeOOH; 4.26 g/cm³); pure iron (α -Fe) has a density of 7.87 g/cm³. At ambient temperatures, magnetite particles exhibit hardness of 5.5, identical to glass. (Cornell and Schwertmann, 1996)

Effective surface areas of magnetite vary according to synthesis method as certain procedures generate coarser/finer particles; however, typical micro-scale particles with approximate diameters of 0.2 μ m exhibit surface areas of approximately 6 m²g⁻¹ (Mannweiler, 1966). Magnetite particles are not porous (Cornell and Schwertmann, 1996).

Standard Gibb's free energy of magnetite formation is -1012.6 kJ/mol; therefore, formation of magnetite is thermodynamically favorable (Cornell and Schwertmann, 1996). Additionally, the standard enthalpy and entropy of magnetite formation are -1115.7 kJ/mol and 146.1 kJ/mol/K, respectively (Robie *et al.*, 1978; Hemingway, 1990).

Solubility products differ depending on the applicable dissolution reaction; however, generally speaking magnetite dissolution is much faster than other pure ferric oxides (Sweeton and Baes, 1970).

2.3 Thermal Properties

Magnetite melting/boiling points are observed at 1590 and 2623 °C, respectively. Heats of fusion, decomposition, and vaporization are 138.16, 605.0, and 298.0 kJ/mol (at 2623 °C), respectively. (Samsonov, 1973)

2.4 Electrical Properties

As mentioned earlier, octahedral sites in the magnetite structure contain ferrous and ferric species. The electrons coordinated with these iron species are thermally delocalized and migrate within the magnetite structure causing high conductivity exchange constants: ranging from $-28 \text{ J}\cdot\text{K}$ to $3 \text{ J}\cdot\text{K}$ between tetrahedral/octahedral sites and octahedral/octahedral sites, respectively (Cornell and Schwertmann, 1996). Magnetite's Verwey transition temperature (VTT) (118 K) exhibits an ordered arrangement of ferrous and ferric ions on octahedral sites, inhibiting electron delocalization when temperatures fall below VTT (Cornell and Schwertmann, 1996). Furthermore, due to electron delocalization effects magnetite can be slightly metal deficient on octahedral sites; such deficiency allows for n- and p-type magnetite semiconductors (Cornell and Schwertmann, 1996).

Resultant conductivities range from $10^2\text{--}10^3 \Omega^{-1}\text{cm}^{-1}$ (Cornell and Schwertmann, 1996). Figure 4 demonstrates that such electrical conductivity evidence semi-conductor behavior; however, this conductivity range borders conductor (metallic) behavior. Metals, semiconductors, and insulators historically exhibit bandgaps ranging from 0.0, 0.2–3.0, $>3.0 \text{ eV}$ (Kiely, 2006). Semi-metallic behavior is further supported by magnetite's relatively low bandgap (0.1 eV) (Cornell and Schwertmann, 1996).

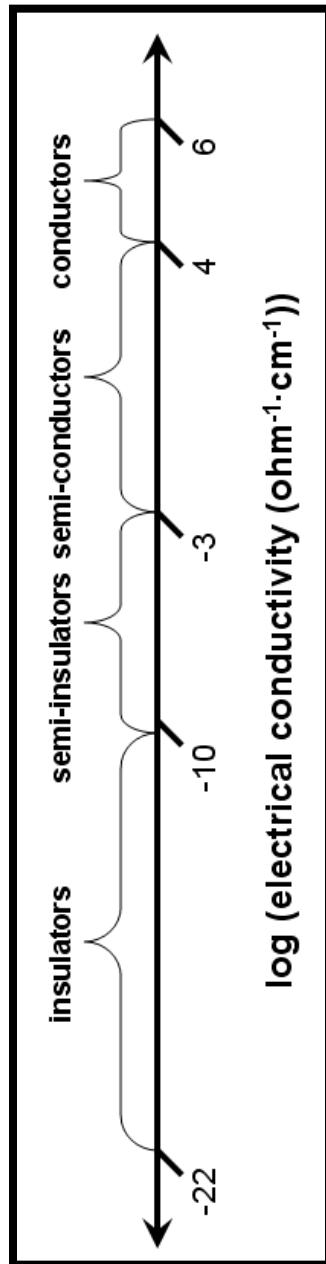


Figure 4: Electrical conductivity scale and resultant behavior

2.5 Magnetic Properties

Magnetite's Curie temperature is observed at 850 K. Below the Curie temperature, magnetic moments on tetrahedral sites, occupied by ferric species, are ferromagnetically aligned while magnetic moments on octahedral sites, occupied by ferrous and ferric species, are antiferromagnetic and cancel each other; such combined behavior is termed ferrimagnetic (Cornell and Schwertmann, 1996). Therefore, at room temperature, magnetite is ferrimagnetic. Figure 5 illustrates the ferro-magnetic behavior of tetrahedral sites and mentions the antiferro-magnetic behavior of octahedral sites.

As temperatures increase to the Curie temperature, thermal fluctuations destroy the ferromagnetic alignment of magnetic moments on tetrahedral sites; hence, ferrimagnetic strength is diminished. When the Curie temperature is attained, net magnetization becomes zero and superparamagnetic behavior is observed.

Coercivity, the magnitude of applied magnetic field required for zero magnetization after magnetic saturation (determined from hysteresis loops, see Figure 10), can be controlled during magnetite precipitation reactions; coercivities range from 2.4 (typical of disk drive recording media) to 20.0 (permanent magnet realm) kAm^{-1} (Meisen and Kathrein, 2000).

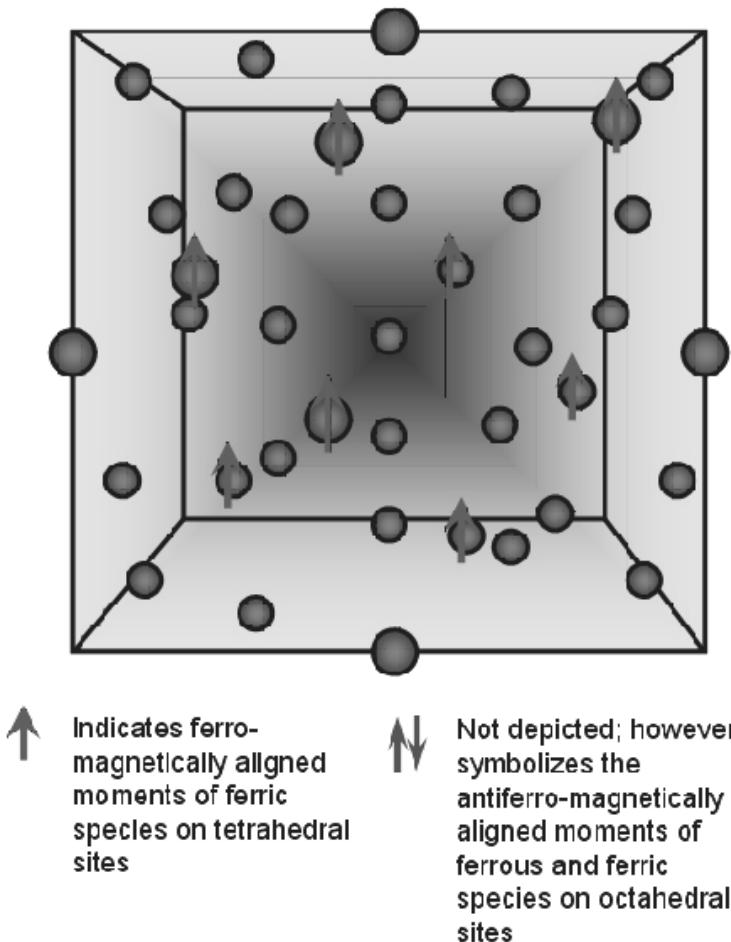


Figure 5: Ferrimagnetic behavior of magnetite

3 PROCEDURES FOR NANOPARTICLE SYNTHESIS

Within this section of the report several well-documented magnetite nanoparticle synthesis techniques will be discussed. While there are several distinct physico-chemical procedures to synthesize magnetite nanoparticles, the majority of these methods fall under two categories: polymer/surfactant

assisted precipitation reactions and co-precipitation reactions. Synthesis procedures of interest for this report include reverse micelle, copolymer gels, co-precipitation, solvothermal reduction, and ion exchange resin. The following subsections will provide brief descriptions of each method and a summary of relative advantages and disadvantages of select methods.

3.1 Reverse Micelle

The reverse micelle method is basically a water-in-oil emulsions that generate reverse micelles, which act as nano-reactors for various physico-chemical processes. In this particular case, a reverse micelle solution is created by inversion of typical surfactant micelles as illustrated below in Figure 6.

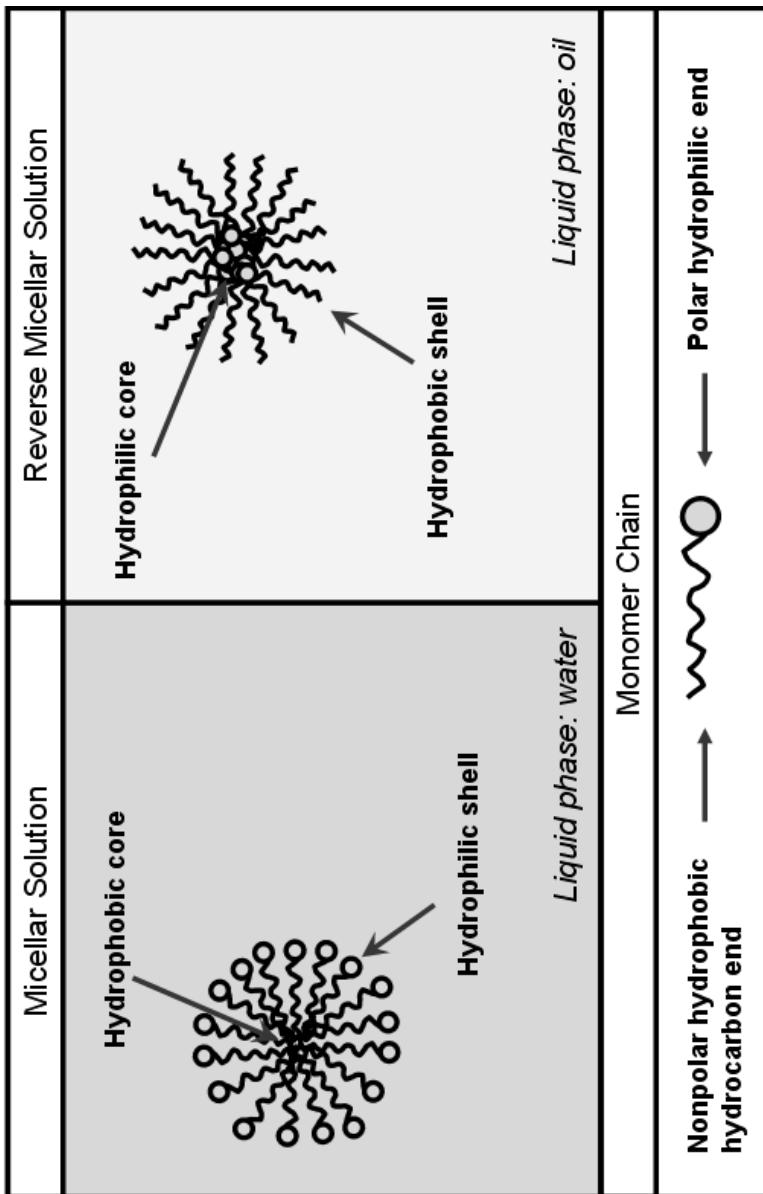


Figure 6: Schematic of Micelle and Reverse Micelle Solutions

As evidenced by the above illustration, micellar solutions can be utilized towards separation of hydrophobic compounds and subsequent precipitation of micellar units. Such processes are often employed in removal of suspended/colloidal particles in water treatment; accordingly, reverse micellar units could treat aqueous compounds. Through exploitation of this physico-chemical behavior, nanoreactors for aqueous compounds can be generated in the hydrophilic cores of reverse micelles. Dissolvable metal species (such as iron) partition into the aqueous phase (water-in-oil emulsions) contained within the reverse micellar cores. A nano-scale reactor containing the species of interest now exists at the reverse micelle center; this scenario allows for various chemical reactions to be realized within user-defined, alterable, dimensionally restricted spaces. Furthermore, simultaneous nanoparticle production and steric stabilization (through adsorption of surfactant monomers) can be realized.

Numerous reverse micelle methods and chemical protocols towards synthesis of magnetite nanoparticles have been documented in the literature (Fried *et al.*, 2001; Tang *et al.*, 2003; Zhou *et al.*, 2001; Tartaj and Serna, 2002; Selim *et al.*, 1997; Lee *et al.*, 2005). The following procedure discusses generation of magnetite nanoparticles by Lee *et al.*, who have detailed a synthesis protocol capable of producing monodispersed nanoparticles of uniform diameters over the 2-10 nm range (Lee *et al.*, 2005). Nanoparticle diameter is governed by the relative amounts of surfactant and solvent and the ratio of polar solvent to surfactant.

Surfactant (dodecylbenzenesulfonate) is added to an oil (xylene) solution, creating an opaque solution. This solution is subsequently mixed through a sonication process, which bombards the sample with highly intensive ultrasonic waves and ultimately homogenizes the emulsion. An iron solution

containing 1:2 (molar ratio) ferrous to ferric species (ferrous chloride, ferric nitrate) in alcohol (ethanol) is vigorously stirred into the homogenized emulsion solution. Shortly thereafter (a few seconds), the opaque emulsion becomes transparent; after 12 hours of stirring, the reverse micelle phase (water-in-oil phase) stabilizes. Gradual heating of reverse micelle solutions to 90 °C under anoxic conditions (argon flow – towards prevention of ferrous oxidation) ensues. A strong reducing agent (hydrazine) is introduced to the system; immediately afterwards, the transparent solution turns black. Refluxing the solution and centrifugation in ethanol allowed magnetite nanoparticle recovery. Nanoparticles are readily dispersed in organic solvents (Lee *et al.*, 2005) self-assemble into two-dimensional arrays out of solution (Fried *et al.*, 2001).

3.2 Copolymer Templates

Employment of copolymer templates towards synthesis of various nanoparticles has been described in the literature (Breulmann *et al.*, 1998; Morais *et al.*, 2002; Lin *et al.*, 2003; Suber *et al.*, 2001; Rabelo *et al.*, 2000). Copolymer templates are usually ion exchange resins; commonly observed examples include micro-scale styrene beads with divinylbenzene cross-linking. Resins are mesoporous (pore diameter ranging from 2-50 nm) and exude cation exchange capabilities (i.e., negatively charged functional groups, such as sulfonic groups, permit cation sorption/desorption). Figure 7 demonstrates the structure of such copolymer templates.

Immersion of these copolymer templates into solution containing strong (high valence state, large species size), positive electrolytes results in sorption of said electrolytes by sulfonic groups. Loading the resins, and concurrently resin pores, with ferrous iron species produces nanoreactors capable

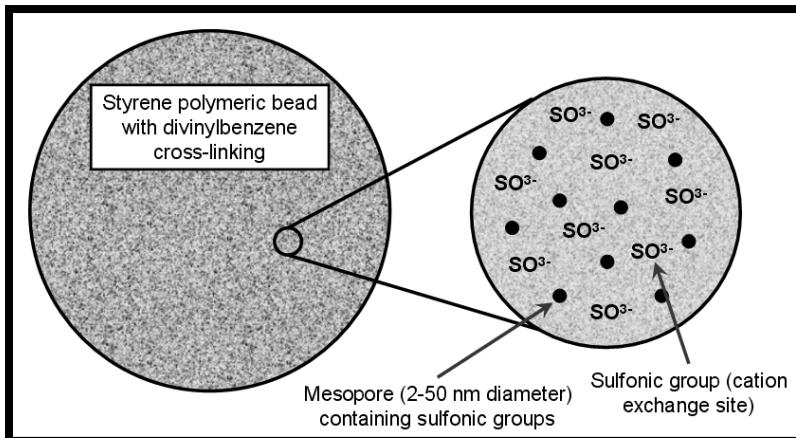


Figure 7: Schematic of mesoporous copolymer template containing cation exchange sites

of magnetite synthesis. Utilization of traditional micro-scale magnetite synthesis procedures in such systems results in precipitation of magnetite nanoparticles.

Numerous copolymer template procedures for synthesizing magnetite nanoparticles have been documented in the literature (Breulmann *et al.*, 1998; Morais *et al.*, 2002; Lin *et al.*, 2003; Suber *et al.*, 2001; Rabelo *et al.*, 2000). Rabelo *et al.* have produced a straightforward protocol that utilizes the simple theory discussed above. Nanoparticle size control is governed by the concentration of ferrous ion incorporated into the polymeric template, due to mass-charging effects on sulfonic groups.

Rabelo *et al.*'s procedure calls for cation exchange polymeric resins containing sulfonic functional groups to be immersed into ferrous (FeSO_4) solution. The ferrous solution, containing polymeric beads, is stirred (one hour) at room temperature, promoting ferrous diffusion into resin pore

spaces and gel-phases; subsequently, resins are filtered and rinsed. Ferrous containing resins are then stirred into oxidizing solution (potassium hydroxide, sodium nitrate) maintained under anoxic conditions (nitrogen sparged) and 60 °C temperature. Note, a leading procedure towards synthesis of micro-scale magnetite particles involves similar techniques; however, instead of immersing ferrous-containing polymeric resins, ferrous salt is added directly. Resultant polymer supported magnetite nanoparticles are filtered, rinsed, and dried. (Rabelo *et al.*, 2000)

3.3 Co-precipitation Reactions

Controlled co-precipitation techniques towards synthesis of magnetite nanoparticles are widespread and easily obtainable in the literature (Massart, 1981; Sahoo *et al.*, 2001; Visalakshi *et al.*, 1993; Kang *et al.*, 1996; Tang *et al.*, 2003; Qu *et al.*, 1999). The chemical reaction utilized in these procedures involves alkinization of ferric and ferrous species. One major obstacle when employing such direct techniques is Oswald ripening, which is the phenomenon that causes aggregation of colloidal particles towards lower surface energy. Steric stabilization of suspended nanoparticles provides resolution of this problem.

Kim *et al.* describe one magnetite nanoparticle synthesis and stabilization procedure. Stock solution containing 1:2 (molar ratio) ferrous to ferric species (ferrous chloride, ferric chloride) was slowly poured (drop-wise) into alkali source, composed of sodium hydroxide, under vigorous stirring and nitrogen sparging. Magnetite crystals formed and precipitated; this powder was subsequently removed from solution through employment of an external magnetic field. The powder was subsequently rinsed with deionized water and separated via centrifugation; afterward, the powder underwent weak acid

rinse to neutralize anionic surface charges, again powders were separated via centrifugation. X-Ray Defraction (XRD) analysis demonstrated average particle diameters of 6 nm. Magnetite nanoparticles were then sterically stabilized using mechanically stirred sodium oleate solution (at weak base pH) at 90 °C temperature. (Kim *et al.*, 2001)

Magnetite nanoparticle diameter control is provided by altering the sodium hydroxide concentration and pH. At constant pH, nanoparticle sizing is directly proportional to sodium hydroxide concentration; alternatively, when sodium hydroxide concentration is held constant, nanoparticle diameters are inversely proportional to pH. Therefore, smaller nanoparticles (diameter < 3 nm) are synthesized at higher pH and lower sodium hydroxide concentrations.

3.4 Other Chemical Techniques

Although the literature describes numerous techniques to synthesize magnetite nanoparticles, this report only details the theory and process dynamics for those listed above. Some other synthesis methods available through the literature include solvothermal reduction and thermal decomposition (Hou *et al.*, 2003; Sapiszko and Matijevic, 1980; Woo *et al.*, 2004; Sun and Zeng, 2002). These alternative synthesis processes are discussed in Appendix B.

3.5 Comparison of Synthesis Methods

Based on the above descriptions of various means of generating nano-scale magnetite particles, advantages and disadvantages with each process can be understood. Clearly, these advantages or disadvantages will dictate employment of nanoparticles towards various applications and settings.

If monodispersed, well-ordered, uniformly sized, magnetite nanoparticles are necessary for a given operation,

reverse micelle method provides excellent control over the synthesis process. Simple alteration of surfactant and solvent concentrations/volumes allows for tight control over nanoparticle diameter. Conversely, monodispersed, stabilized nanoparticles cannot be utilized in many applications because of pressure drop concerns (i.e., clogging). Copolymer templates allow for structural stability of magnetite nanoparticles through polymeric supports; however, nanoparticles are then removed from colloidal-phase to solid-phase, eliminating many potential employment capabilities in biomedical applications. Uniform sizing of copolymer embedded nanoparticles is operationally simple as varying of ferrous ion incorporation into polymeric templates allows for particle size control. Controlled co-precipitation, solvothermal reduction, and thermal decomposition, like reverse micelle procedures, allow for uniform nanoparticle sizing depending upon chemical concentrations; however, these reactions appear to be more operationally complex (variations in chemical conditions can be very sensitive) and thus deficient as compared to reverse micelle method.

Therefore, for applications requiring monodispersed, uniformly sized, stable magnetite nanoparticles, reverse micelle method is recommended; for applications entailing field operation (such as environmental remediation projects – see section five), copolymer template method is suggested to ensure synergy of polymeric rigidity and nano-scale magnetite chemico-magnetic properties.

4 PROPERTIES OF NANO-SCALE MAGNETITE

In section two of this report, “Bulk Properties of Magnetite,” various structural, physical, thermal, electrical, and magnetic properties of magnetite were discussed. As magnetite particle diameters are decreased to the nano-scale,

structural, physical, thermal, electrical, and magnetic properties of begin to change. Many of these characteristic changes are thoroughly described in the literature (Thapa *et al*, 2004; Cornell and Schwertmann, 1996; Mannweiler, 1966; Pawlow, 1909; Kiely, 2006); however, the majority of nano-scale magnetite properties have not yet been explored. Obviously, a metal oxide named “magnetite” is not going to be utilized for advanced, state-of-the-art electronic or thermal applications. Consequently, little research has been published regarding various properties recorded in section two.

Regardless of the lack of overarching nanoparticle characterization, several properties have been experimentally determined. The following subsections will provide details about these property transitions from bulk- to nano-scale particles.

4.1 Structural Properties

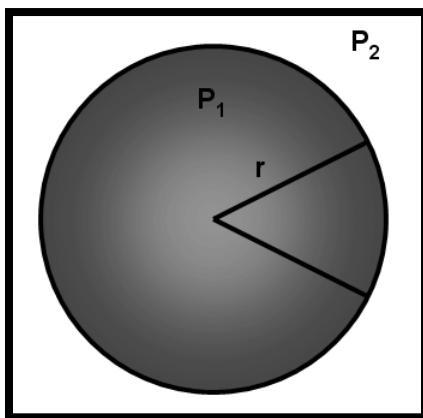


Figure 8. Effect of radius on Laplace pressure

Scanning electron microscopy analyses by Thapa *et al*. indicate that as magnetite particle size is decreased into the

nano-scale, the corresponding lattice parameter increases (Thapa *et al.*, 2004). Understanding of this volume increase stems from fundamental surface chemistry relationships. Consider Figure 8, which illustrates a generic magnetite particle with radius, r , internal pressure, P_1 , and external pressure, P_2 .

Laplace determined that pressure variables are inversely related to particle radius and directly related to surface tension, as described below (Equation 1).

$$P_1 - P_2 = P_{Laplace} = \frac{2\gamma}{r} \quad (Equation\ 1)$$

As particle radius decreases, Laplace pressure increases, effectively reducing the external pressure exerted on the particle. Lower external pressures result in particle swelling, which consequently causes unit cell expansion. Table 1 demonstrates lattice parameter and unit cell volume expansion between bulk magnetite and 6.4 nm particles. Unit cell bulging attributable to fluctuations in Laplace pressure are clearly observed. Regardless of this swelling, nano-scale magnetite still exhibits a face-centered cubic unit cell.

Table 1. Bulk vs. nano-scale unit cell dimensions (Cornell and Schwertmann, 1996; Thapa *et al.*, 2004)

| Material | Lattice parameter (Å) | Unit cell volume (Å ³) |
|------------------|--------------------------|---------------------------------------|
| Bulk magnetite | 8.39 | 590.6 |
| 6.4 nm magnetite | 8.40 | 592.7 |

Crystal structure of nano-scale magnetite remains constant; however, electron probe analyses imply that oxygen concentrations within magnetite particles decline as particle size is reduced. Consequently, a relative decrease in iron valence is observed, generating greater ferrous ion presence. This structural change is insignificant to structural properties of magnetite; however, some effect is observed on magnetic properties.

No information regarding twinning, parting, or terracing on magnetite nanoparticle surfaces could be gathered.

4.2 Physical Properties

In accord with many classroom discussions and examples, the effective surface area of nano-magnetite should increase with decreasing particle size. Figure 9 demonstrates the theory of this supposition.

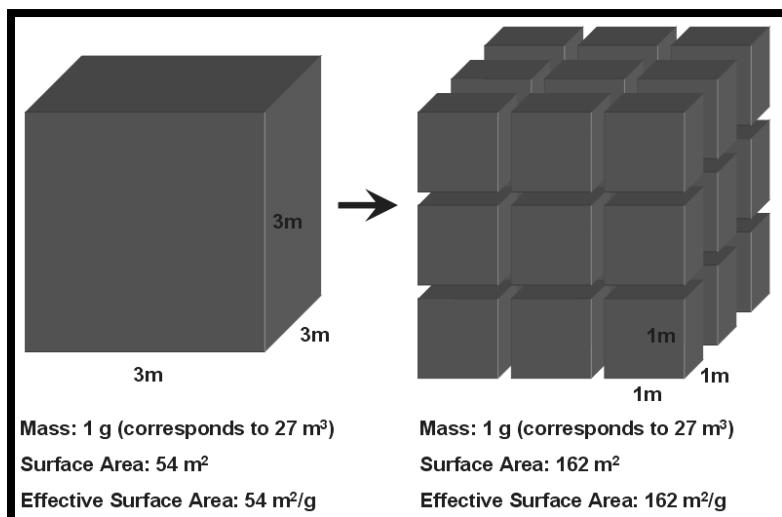


Figure 9. Increasing effective surface area with decreasing particle size.

Section two recorded micro-scale magnetite ($0.2 \mu\text{m}$) effective

surface area as $6 \text{ m}^2\text{g}^{-1}$ (Mannweiler, 1966); conversely, effective surface areas of magnetite nanoparticles ($\sim 50 \text{ nm}$ diameter) have been determined as approximately $100 \text{ m}^2\text{g}^{-1}$ (Cornell and Schwertmann, 1996).

Colloidal magnetite solutions are typically characterized by the jet black color, hence no color change between bulk-scale and nano-scale magnetite is observed. Unit cell swelling should cause subsequent reduction in density; however, no experimental data confirming this assumption was located. Magnetite nano-particles are assumed nonporous. No information regarding hardness, free energy, or solubility of magnetite nanoparticles could be gathered.

4.3 Thermal Properties

In 1909, Iwan Petrowitsch Pawlow predicted that decreasing particle diameter should generate lower melting points, according to Equation 2 (Pawlow, 1909).

$$\frac{T_m(r)}{T_m(\infty)} = 1 - \frac{4v_s^{2/3}}{L} \left(\gamma_s \cdot 2v_s^{2/3} - \gamma_l \cdot 2v_l^{2/3} \right) \cdot \frac{1}{d}$$

(Equation 2)

Where T_m , v , L , γ , d , s , l , and ∞ represent melting temperature, specific molar volume, molar heat of fusion, surface tension, particle diameter, solid phase, liquid phase, and bulk phase, respectively. No information regarding magnetite's surface tension could be found towards utilization of Pawlow's equation; however, a decline in melting/boiling temperatures of nano-scale magnetite can be assumed.

No information regarding heats of fusion, decomposition, or vaporization of magnetite nanoparticles could be gathered; however, as reduction in melting point is established, subsequent reduction in heats of fusion, decomposition, or vaporization can be deduced through logic and comparison with other materials (Schmidt *et al.*, 1997).

4.4 Electrical Properties

No information regarding electrical properties of magnetite nanoparticles could be found in the literature. However, information regarding electrical conductivity and resistivity of polymer impregnated with magnetite particles was discovered; as this information relates to the copolymer template synthesis procedure, it will be presented herein. Magnetite incorporation into polymeric substances causes resistivity modification from insulator realm (0 vol% magnetite) to semi-conductor regime (10 $k\Omega\cdot m$ at 47 vol% magnetite) (Weidenfeller *et al.*, 2002).

4.5 Magnetic Properties

Section two describes the magnetization of bulk magnetite as ferrimagnetic, generated by parallel alignment of magnetic moments on tetrahedral sites and anti-parallel alignment of ferrous and ferric spins on octahedral sites. Typical ferrimagnetic behavior exerts coercivity and remanence (retentivity) as displayed in Figure 10. As particle size is decreased, the amount of exchange-coupled spins resisting spontaneous magnetic reorientation is decreased, tending towards paramagnetic or superparamagnetic magnetization (Kiely, 2006). Consequentially, decreasing magnetite particle size should demonstrate reduced ferrimagnetic and enhanced superparamagnetic behavior. Similarly, increasing temperatures enhance thermal energy of

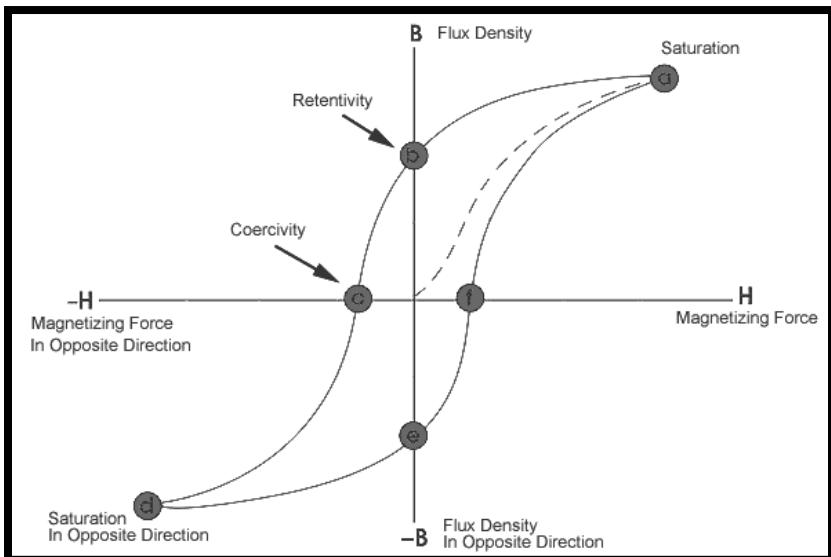


Figure 10. Generic ferrimagnetic hysteresis loop

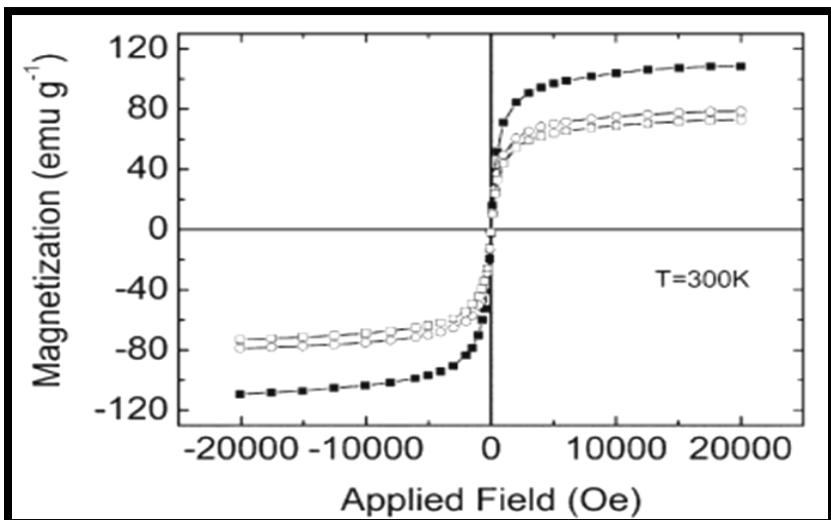


Figure 11. Absence of hysteresis loop (for three different particles) implies superparamagnetism (Hou et al., 2003)

particles and thus facilitate magnetic reorientation, or superparamagnetic magnetization (Kiely, 2006). In accordance with superparamagnetic behavior, magnetite nanoparticles exhibit zero coercivity and remanence in hysteresis loops as illustrated in Figure 11. Coercivity slowly builds as magnetite particle diameter increases.

Reduction in particle size also affects the Curie temperature, which defines the critical temperature where magnetization changes from ferrimagnetic to superparamagnetic. Naturally, if superparamagnetic magnetism dominates at room temperature, the effective Curie temperature of magnetite nanoparticles (738 K) must be lower. Indeed, the higher proportion of surface spins in nano-scale particles enhances the dipolar anisotropy, lowering the Curie temperature (temperature at which single-ion and dipolar anisotropy terms are equivalent) (Thapa *et al.*, 2004).

Saturation magnetization in nano-scale magnetite particles follows two distinct patterns as particle size decreases. EPMA analyses suggest that particle size reduction spurs relative oxygen concentration decline, causing slight reduction in iron valence states (Thapa *et al.*, 2004). This scenario generates greater ferrous ion content; since the ultimate magnetic moment depends upon ferrous species, subsequent increase in magnetization should be observed. Magnetization varies along particle diameter with greater magnitude within the particle and lower magnitude near the surface. Therefore, as particle diameter is decreased, surface effects will eventually affect saturation magnetization. Researchers have discovered that below 10 nm, saturation magnetization suddenly reversed trend and began decreasing with particle size (Thapa *et al.*, 2004). Basically, at extremely small nanoparticle dimensions (diameter < 10 nm), saturation magnetization decreases with decreasing particle size because

surface effects.

In presence of external magnetic field, the induced magnetic field surrounding magnetite nanoparticles is larger than for bulk magnetite (Ebner *et al.*, 1997). This beneficial nano-scale property allows for enhanced magnetic separation capabilities (to be discussed in section five).

5 APPLICATIONS

Given magnetite's nano-scale magnetic properties (superparamagnetism), material scientists and electrical engineers may dismiss magnetite as being a meaningless venture. Contrarily, environmental, chemical, and biological engineering engineers may take different stances on the matter. Opportunities for magnetite nanoparticles to be effectively incorporated into environmental contaminant removal and cell separation (Honda *et al.*, 1998; Ebner *et al.*, 1999; Rikers *et al.*, 1998; Navratil, 2003), magnetically guided drug delivery (Roger *et al.*, 1999), magnetocytolysis (Roger *et al.*, 1999), sealing agents (liquid O-rings) (Enzel *et al.*, 1999), dampening and cooling mechanisms in loudspeakers (Enzel *et al.*, 1999), and contrasting agents for magnetic resonance imaging (MRI) (Schütt, 2004). Advancement of synthesis and stabilization procedures towards production of uniformly sized, dispersed (potentially embedded) magnetite nanoparticles has clearly inspired creative imagination and application in various fields. The following subsections address the topics mentioned above towards understanding of the capabilities offered by magnetite nanoparticles.

5.1 High Gradient Magnetic Separation

High gradient magnetic separation (HGMS) techniques involving magnetite nanoparticles have abounded over the past decade. HGMS, as the name implies, involves magnetic

separation of suspended particles. One evident employment of this technology involves implementation of magnetite nanoparticle generated HGMS-effect towards traditional water treatment plant coagulation needs. Basically, magnetite nanoparticles act as magnetic seeding agents, eventually forming magnetically active flocs with other suspended particles (suspended solids, bacteria, plankton) (Kurinobu *et al.*, 1999). The magnetite nanoparticles present in these flocs can be effectively recovered, separated, and reutilized. Such sustainable employment has many advantages over typical water treatment residuals: decreased sludge generation, reduced sludge transport and disposal costs, and diminished virgin coagulant demands. Research studies demonstrate practical recovery and reutilization of magnetite particles in coagulation operations; 100% of magnetite particles present in water treatment residuals, 95% of magnetic particles subsequently recovered from the sludge (Kurinobu *et al.*, 1999).

Drinking water requirements mandate colloidal particle (including bacterium, solids, etc.) removal. These particles are typically removed via introduction of iron(III) or aluminum(II) salts, which attract negatively charged suspended particles generating flocculation, to the water column. Particle mass eventually surpasses the colloidal regime, allowing for gravity-induced settling. The proposed HGMS technique follows similar process dynamics as outlined below and illustrated in Figure 12. The open literature has documented the adsorptive properties of magnetite extensively (Ebner *et al.*, 1999; Navratil, 2003; Honda *et al.*, 1998; Kurinobu *et al.*, 1999). Therefore, negatively charged ligands, electrolytes, and other suspended particles will undergo interaction (adsorption) with magnetite's active surface sites. Ultimately, the size of magnetically active flocs will allow gravitational

forces (settling forces) to exceed Brownian motion (suspension forces), producing sludge at the reactor bottom. These water treatment residuals (i.e., sludge) are collected and submitted to an HGMS-system, permitting magnetite nanoparticle recovery and subsequent reuse.

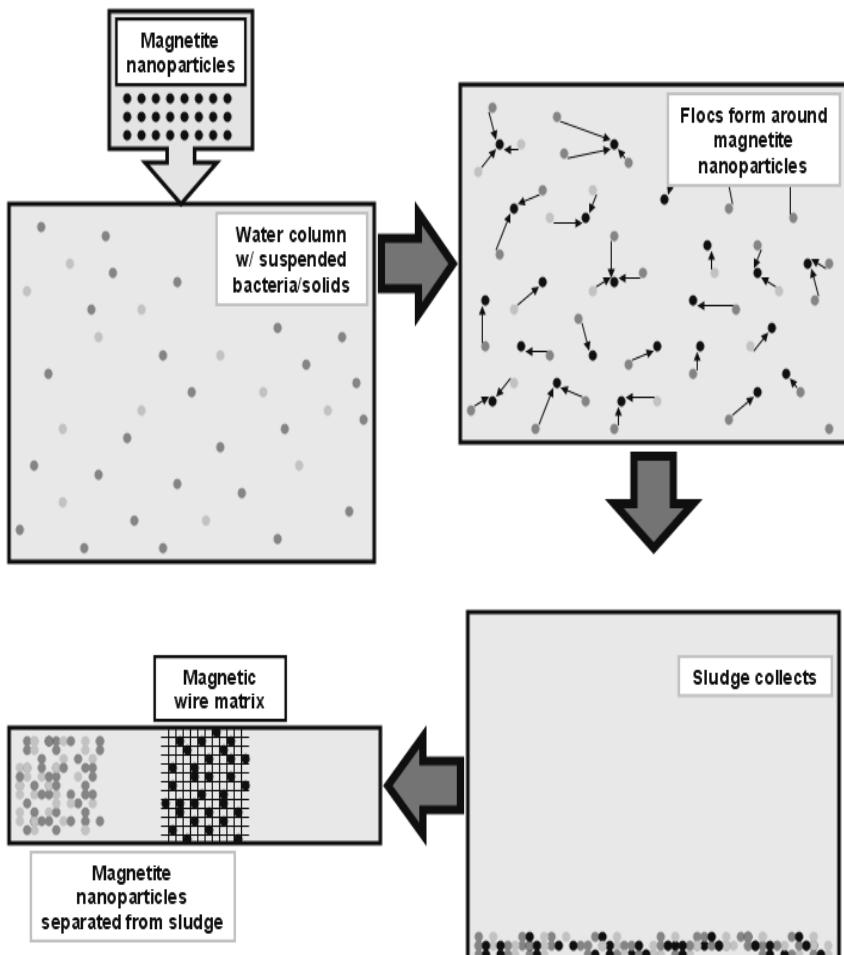


Figure 12. Magnetite coagulant utilization through HGMS technique

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Another environmental HGMS application of magnetite nanoparticles involves the wastewater treatment industry. Following treatment of wastewater, bio-solids must be separated from treated water; this procedure is often completed through filtration or clarification techniques. These technologies, while efficient, have inherent disadvantages such as pressure drop, long retention times, and large reactor volumes. Again, magnetite nanoparticles will be utilized as coagulant; however, much higher bio-solid concentrations are now present. Recent research demonstrates greater than 90% *Escherichia coli* cell recovery in activated sludge-like systems (Honda *et al.*, 1998).

Another HGMS-oriented environmental approach involves utilization of polymeric resins impregnated with magnetite nanoparticles (recall the copolymer gel synthesis procedure discussed in section three) towards removal of hazardous wastes from aqueous systems. Like most iron oxides, activated magnetite nanoparticles offer impressive adsorption capabilities; however, problems associated with pressure-drop prohibit magnetite nanoparticle utilization in plug-flow (columnar) reactors. This predicament is overcome through effectively loading magnetite nanoparticles into polymeric resins. The resultant hybrid material exhibits structural rigidity and strength of micro-scale polymeric resins and adsorptive properties of nano-scale magnetite. Superparamagnetic behavior of magnetite nanoparticles (discussed in section four) facilitates in adsorption and retention of target species; superparamagnetic magnetization also allows for HGMS-recovery of magnetite nanoparticles to be realized. Monodispersed magnetite nanoparticles that are surface-coupled towards treatment of specific species have been widely utilized in HGMS (Schütt, 2004); furthermore, this coating prevents magnetite oxidation to maghemite (Kiely,

2006).

One commonly employed application of this technology is removal of actinides from wastewater streams. Actinides are highly toxic, radioactive elements present in nuclear wastes. The actinide class (periodic table's last row) includes elements ranging from atomic number ninety (thorium) to one hundred and three (lawrencium); elements commonly found in nuclear waste streams include uranium, neptunium, plutonium, and americium. Researchers have found that hybrid magnetite-polymeric resin particles exhibited greater treatment capacity than both conventional ferric oxide surface complexation adsorption processes and also traditional HGMS technologies (Ebner *et al.*, 1999).

Nano-scale magnetite provides metal ion adsorption, HGMS, or both, depending on the waste stream characteristics (Navratil, 2003). For those reasons, great potential for magnetite nanoparticle employment towards treatment and recovery of various heavily contaminated waste streams exists (Rikers *et al.*, 1998). In fact, Dr. Arup SenGupta of the Lehigh University Civil and Environmental Engineering department plans on investigating the capability for magnetite nanoparticle embedded ion exchange resins towards remediation of arsenic contaminated waters in the near future.

5.2 Ferrofluids

Ferrofluids are colloidal suspensions containing nano-scale magnetite particles; in the presence of strong magnetic fields, the ferrofluid will grow "spikes" along magnetic field lines. The photograph on the cover of this report illustrates ferrofluid physico-morphosis under magnetic field influence; Figure 13 further demonstrates ferrofluid physico-morphosis.

In conclusion, ferrofluids are *really* cool! However, in addition to being amazing material science artwork,

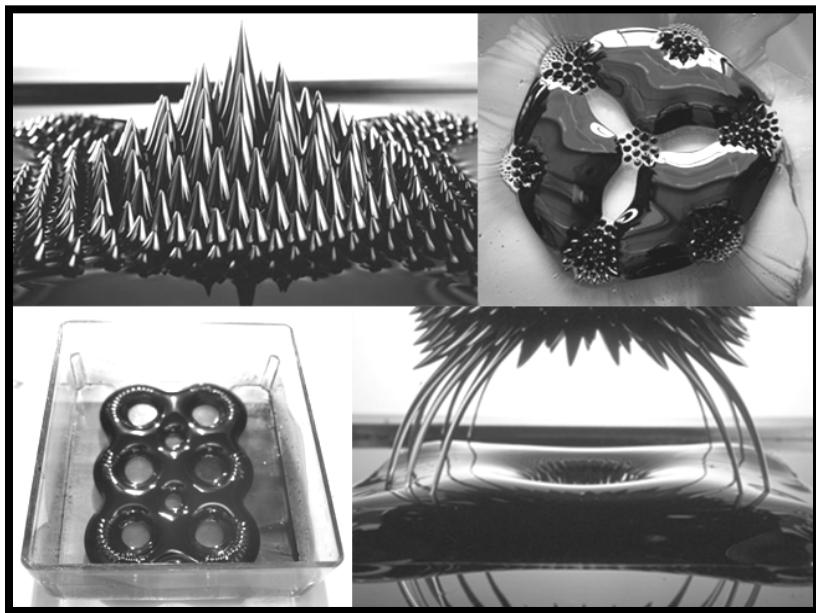


Figure 13. Ferrofluid physico-morphosis under magnetic field

ferrofluids have many unique properties and potential applications. Descriptions of ferrofluid implementation into various technologies are presented in the sections below.

5.2.1 Magnetic Resonance Tomography

Magnetic Resonance Tomography (MRT) permits non-invasive visualization of cross-sectional images of the human body, tissues, and organs (Schütt, 2004). The MRT technique provides better tissue resolution than traditional radiation based technologies; with addition of contrasting agents, this resolution can be further enhanced (Shao *et al.*, 2005). Magnetite nanoparticles (in ferrofluid form) are powerful contrasting agents due to their paramagnetic magnetization, as demonstrated in Figure 14.

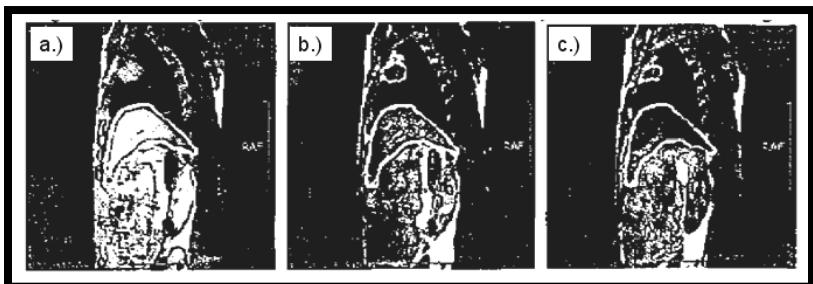


Figure 14. Time1 (T1) and Time2 (T2) magnetic resonance images of the liver of rabbit before and after injecting contrast agent: (a) T1 image before injecting (b) T2 image of before injecting (c) T2 image after injecting (Shao *et al.*, 2005)

Human bloodstreams readily reject the nanoparticle colloidal solution, which quickly passes into the liver (Shao *et al.*, 2005). Consequently, ferrofluids have thus far only been useful in distinguishing between healthy and malignant liver cells. This limitation can be overcome through functionalization of magnetite nanoparticles with various ligands allows for organ-specific transport; therefore, MRT imaging of various bodily organs can be possible. Furthermore, polymeric (i.e., polyethylene oxide - PEO) coating of functionalized magnetite particles permits ferrofluids longer bloodstream retention. (Schütt, 2004)

PEO coatings are applied through magnetite interaction with copolymer PEO-polypeptide; polypeptides interact with the positively charged magnetite surface and provide nanoparticle masking to allow longer bloodstream residence. These coated magnetite nanoparticles could also be employed as extremely efficient capsules for drug delivery systems, which will be discussed below. (Schütt, 2004)

5.2.2 Magnetically Guided Drug Delivery

Ferrofluids containing encapsulated (with biologically compatible surface chemistries) magnetite nanoparticles, as described above, can be employed for drug delivery to specific locations. Exploitation of superparamagnetic magnetization of magnetite nanoparticles allows for “magnetic dragging” of internal (present in bloodstream or elsewhere) magnetite nanoparticles carrying DNA, enzymes, drugs to target-areas. Similarly, biological effectors, which are proteins (containing DNA specific to target cells) incorporated into encapsulated nanoparticle surface functionality, allow for target cell specificity. Once biological effector carrying magnetic nanoparticles bind to target-cells, the applied magnetic field is fluctuated (approximately 1 MHz) causing magnetocytolysis, or cell destruction, which eliminates target-cells. Similarly, after being dragged to target areas, magnetocytolysis of encapsulated nanoparticles can release drugs. Research towards these ends is currently being heavily investigated as potential for novel drug/cancer treatment abounds. (Roger *et al.*, 1999)

5.2.3 Mechano-Electrical Applications

Ferrofluids have some very interesting potential applications in various mechanical/electrical situations. Rotating shafts protruding into low- or high-pressure chambers oftentimes exert a great deal of friction on traditional rotating mechanical seals (commonly known as O-rings). Such seals are employed in rotating anode x-ray generators and vacuum chambers operated by the semiconductor industry. Ferrofluid seals secured with permanent magnets provide firm seals with minimal friction. (Enzel *et al.*, 1999)

Another novel application of ferrofluids allows

improved performance of loudspeakers. Electric energy in loudspeakers is delivered through coils situated in the center of permanent circular magnets. The resultant magnetic field generates vibrations, which consequently produce sound and thermal energy. Through exploitation of the circular magnet's presence, the coil can be suitably (permanently) coated with ferrofluid, which subsequently provides sound dampening and cooling mechanisms. (Enzel *et al.*, 1999)

5.3 Potential Applications

While completing the many (countless!) hours of research necessary for this report, various potential applications of ferrofluids in the environmental engineering field (and others) surfaced in my mind. The maximum word count is rapidly approaching; therefore, *summarized* thoughts are recorded below.

- Magnetically active membrane biological reactor (MBR); magnetic water treatment residuals allow for traditional MBR wasting difficulties to be overcome (such a promising idea!).
- Non-alkaline/non-acidic regenerant solution for regeneration of exhausted adsorptive/ion-exchange media.
- Effective recovery of hazardous wastes in extremely concentrated volumes.
- Microfluidic applications; currently much research effort surrounds controlled flow of microfluids. Ferrofluids appear to have great potential as they effectively carry and transport DNA, enzymes, and other biomolecules.

6 CONCLUSION

Bulk and nano-scale properties of magnetite have been documented and discussed; methods of synthesizing magnetite nanoparticles have been described at length; potential applications and markets for novel employment of nano-scale magnetite have been explored. An ancient proverb states, “One man’s trash is another man’s treasure.” That proverb definitely applies to magnetite nanoparticles. Recently in class, Dr. Kiely stated that at high temperatures ferromagnetic particles exhibit superparamagnetic behavior, and *then they are worthless*. Perhaps, such particles are worthless for materials science and electrical engineering applications (hence the lack of depth in the nano-scale electrical properties section); however, superparamagnetic behavior allows for some very interesting environmental, chemical, and biological engineering applications. Novel ideas for magnetite nanoparticle incorporation are being rapidly processed in engineering fields (even by myself!). Undoubtedly, the times are extremely conducive and exciting for engineers delving into the nano-world. Thank you, Dr. Kiely, for assigning this essay assignment, potential realization of the nano-scale magnetite enhanced membrane bioreactor wasting procedure, mentioned in section five, is a likely byproduct.

Blaney

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Figures 1, 4-9, and 12 all by Lee Blaney

Figure 2: <http://www.ifm.eng.cam.ac.uk/people/sc444/images/2a_200_167.jpg>

Figure 3: <<http://www.soes.soton.ac.uk/resources/collection-minerals/minerals/images/M08-Magnetite.jpg>>

Figure 10: <<http://www.ndt-ed.org/EducationResources/CommunityCollege/MagParticle/Graphics/BHCurve.gif>>

Figure 11: <<http://www.chem.pku.edu.cn/mmm/doc/publications/J-Mat-Chem/HouYL-Fe3O4.pdf>>

Figure 13: <http://www.projectarcane.com/wp-content/uploads/2006/01/photo01_1.jpg>; <<http://userwww.sfsu.edu/~infoarts/links/artsciencelecture/physic.art/frankel.ferrofluid.ff.jpg>>; <<http://www.ian.org/Magnetics/Small-RingsFerrofluid.JPG>>; <<http://roclar.net/RP/Kodama-Ferrofluidsculptures.jpg>>

Figure 14: <<http://ieeexplore.ieee.org/iel5/9890/31427/-01463659.pdf?isnumber=&arnumber=1463659>>

Appendix A: Spreadsheet of Magnetite Properties

| Property | Value | Details |
|---------------------------------|-----------------------|--|
| bandgap | 0.1 eV | almost semi-conductor |
| boiling point | 2623 °C | |
| cleavage | none | |
| coercivity (bulk-scale) | 2.4-20.0 kA/m | coercivities are in range of disk-drive recording media and permanent magnets |
| coercivity (nano-scale) | 0 | superparamagnetic |
| color (bulk-scale) | black | |
| color (nano-scale) | black | suspended solutions of magnetite nanoparticles exhibit jet black color |
| conductivity | 10^2 - 10^3 /Ω/cm | almost metallic |
| conductivity exchange constants | high | electrons are thermally delocalized over Fe^{2+} and Fe^{3+} ions |
| JAA | -18 J·K | |
| JAB | -28 J·K | |
| JBB | 3 J·K | |
| crystal structure | inverse spinel | alternating octahedra and tetrahedra-octahedral layers |
| Curie temperature (bulk-scale) | 850 K | below T_c - spins on tetrahedral sites occupied by Fe^{3+} and octahedral sites occupied by Fe^{2+} and Fe^{3+} are anti-parallel |
| Curie temperature (nano-scale) | 738 K | higher proportion of surface spins in nano-scale particles enhances the dipolar anisotropy |
| density | 5.18 g/cc | |
| dissolution behavior | fast | faster than pure ferric oxides |

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| | | |
|----------------------------------|---|---|
| electrical properties | between metal and semiconductor | slightly metal deficient with vacancies on octahedral sites n and p type semiconductor band gap = 0.1 eV - lowest resistivity of any oxide conductivity = $10^2 \cdot 10^3 / \Omega \cdot \text{cm}$ - almost metallic good conductivity due to closeness of Fe^{2+} and Fe^{3+} ions on octahedral sites |
| forms | {111} | 4 threefold axes |
| formula | Fe_3O_4 | |
| formula units/unit cell | $z = 8$ | |
| hardness | 5.5 | |
| heat capacity function | $C_p = 2659.108 - 2.52153 \cdot T + 1.36769 \cdot 10^{-3} T^2 - 3.645541 \cdot 10^4 T^{-0.5} + 2.07344 \cdot 10^7 T^{-2}$ | between 290-800 K |
| heat of decomposition | 605 kJ/mol | |
| heat of fusion | 138.16 kJ/mol | |
| heat of vaporization | 298 kJ/mol | at 2623 °C |
| infrared bands | 580 and 400 /cm | surface OH groups |
| lattice parameter (bulk-scale) | $a = 8.39 \text{ \AA}$ | |
| lattice parameter (nano-scale) | $a = 8.40 \text{ \AA}$ | due to Laplace pressure |
| magnetic properties (bulk-scale) | ferrimagnetic | can produce magnetites with coercivities between 2.4-20 kAm-1 by controlling precipitation |
| magnetic properties (nano-scale) | superparamagnet ic | |
| melting point (bulk-scale) | 1583-1597 °C | |

| | | |
|--|---------------------|---|
| melting point (nano-scale) | <1583 °C | due to inverse relationship between melting point and particle diameter as stated by Pawlow; necessary variables were not available to compute the nano-scale melting point |
| morphology | octahedral crystals | bounded by {111} planes and rhombo-dodecahedra |
| parting | along {111} | |
| porous | not porous | |
| saturation magnetization (bulk-scale) | 2.0 μ_B/fu | for 91.4nm diameter particle |
| saturation magnetization (nano-scale) | | relative oxygen concentrations decline causing valence states of iron cations to be slightly reduced, generating greater ferrous ion content; since the ultimate magnetic moment depends upon ferrous species, subsequent increase in magnetization; below 10 nm surface effects cause saturation magnetization to decrease |
| particle size | 6.4 nm | 1.1 μ_B/fu |
| | 10.8 nm | 2.6 μ_B/fu |
| | 37.8 nm | 2.3 μ_B/fu |
| solubility | $K_{so} = 12.02$ | for the reaction: $(1/3)Fe_3O_4 + 2H^+ + (1/3)H_2 = Fe^{2+} + (4/3)H_2O$ |
| solubility product | 35.7 | from $\log(Fe^{2+})^3/(H)^8.(e)^2$ |
| Standard free energy of formation | | -1012.6 kJ/mol |

| | | |
|-------------------------------|---------------------------|---|
| structure | inverse spinel | due to crystal field stabilization energy (CFSE) greater in Fe^{2+} for octahedral than tetrahedral coordination so Fe^{2+} occupies octahedral sites - Fe^{3+} CFSE is zero, so no preference |
| surface area (bulk scale) | 6 m^2/g | for 200nm diameter particle |
| surface area (nano-scale) | 100 m^2/g | for 50nm diameter particle |
| terracing | present | cubic terracing occurs on the (100) face; atomically flat terracing, oriented along the main crystallographic direction, occurs on the (111) plane |
| twinning | occurs on {111} plane | |
| unit cell | face-centered cubic | |
| unit cell volume (bulk-scale) | 592.7 \AA^3 | |
| unit cell volume (bulk-scale) | 590.6 \AA^3 | due to Laplace pressure |

Appendix B: Other Nanoparticle Synthesis Techniques

Although the literature describes numerous techniques to synthesize magnetite nanoparticles, this report only details the theory and process dynamics for those listed above. Some other synthesis methods available through the literature include solvothermal reduction and thermal decomposition (Hou *et al.*, 2003; Sapiszko and Matijevic, 1980; Woo *et al.*, 2004; Sun and Zeng, 2002).

- Solvothermal Reduction –involves reduction of ferric species (ferric acetylacetone) in the presence of steric stabilizing surfactants within alcohol (ethylene glycol)

by a strong reducing agent (hydrazine). Size control was achieved through the surfactant molecule utilized, precluding highly efficient production of uniformly sized nanoparticles across wide-ranging diameter dimensions. (Hou *et al.*, 2003; Sapieszko and Matijevic, 1980)

- Thermal Decomposition – concerns ferrate (Fe^{5+}) species (iron pentacarbonyl) reduction in the presence of stabilizing surfactant molecules within ether solution (octyl ether) at 100 °C temperature. Ensuing ferrate mixing with ether and surfactant solutions, heating and refluxing of the solution occurs until solution color transitions from colorless to black. This solution was then allowed to cool; subsequently, magnetite nanoparticles were recovered through centrifugation with ethanol. Nanoparticle size is controlled by varying concentrations (molar ratio) of ferrate to surfactant. (Woo *et al.*, 2004; Sun and Zeng,, 2002)

The two alternate synthesis procedures mentioned above are oftentimes slightly altered depending on the researcher performing the reaction. Given procedures vary because each technique has unique advantages/disadvantages related procured resources and intended application of magnetite nanoparticles; however, general procedures were given to highlight the methods and concepts associated with the given principle.

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SEX: What if You Can't Circle M or F?

Alexandra Ganim

During my first week of work at a local restaurant, I was introduced to my coworker “Marie.” Marie was 21 years old, and clearly different from the other employees in that I needed to look at her name tag to distinguish her sex. Though I had some prior knowledge and exposure to intersex conditions, my experience was limited to research, textbooks and the popular media. Having no previous personal exposure that I was aware of, I was caught slightly off-guard. This initial impression, however, dissolved almost as quickly as it had arisen once I observed my co-workers interacting with her in a friendly and comfortable manner. Unfortunately, I also soon became increasingly aware of the cruel discrimination that Marie faced, and constant belittlement every time she turned her back. This treatment came not only from restaurant guests, but fellow employees and other adults, some of whom went so far as to disrespect her blatantly and in public.

Though Marie attended and graduated from technical school with a degree in Hotel Hospitality, she is not allowed to answer the phone or become a server. Management does not want her interacting with guests, and therefore does not know what to do with her; they keep her in the kitchen area to run food out to tables or appoint her to other tasks away from the public eye. Unfortunately, this treatment was not only held by the managerial staff. I was approached one afternoon by a

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server who pulled me aside to say, “I know you aren’t a server assistant today, but whatever you do—Do not let Marie near any of my tables! Intercept any food she brings out and deliver it yourself.” I walked away from his request shocked and infuriated, but also haunted by the outrageous degree of discrimination challenging her on a daily basis.

As this semester began, I got into the habit of bringing textbooks with me to work to review class material if business was slow. On a particularly slow day, Marie and I were chatting while I glanced over my notes from a course called Endocrinology of Behavior, and she commented that I was learning a topic she knew much about. She continued to tell me about how she was born with male-typical external genitalia, and diagnosed with congenital adrenal hyperplasia (CAH) at birth. Babies with this syndrome have a problem with hormone production in the adrenal glands, which leads to exposure to higher than normal levels of steroid hormones that masculinize the genitalia and perhaps even the brain and behavior. Even if the child is a girl with two X chromosomes, the high levels of steroids during fetal development cause the expression of male-typical characteristics. Marie was born heavily masculinized; sex change surgery was performed soon after birth; and puberty brought her serious amounts of hormone therapy, which contributed to unhealthy weight gain in a male-typical distribution, “apple-shape” (as opposed to a female-typical “pear-shape”). A few years ago, her hormone treatment dosages were administered incorrectly, shooting her testosterone level to twice that of a normally healthy male – high enough to, as she explained, put her at severe risk of death. She continues to suffer from its lasting effects today, manifested in a lowered voice and facial hair.

Modern Dilemmas of Intersexuality

Disorders of sexual development have been kept secret throughout history, due to feelings of shame and embarrassment. Many times these emotions are projected by the family, who generally feel the need to “correct” the atypical genitalia as quickly and seamlessly as possible. The public’s exposure to this realm of disorders has been predominantly limited to comedic cruelty and traveling circuses featuring shows on birth defects and “freaks of nature.” The result of the secrecy, denial, and shame surrounding this topic has prevented true advocacy and awareness of this group to enter a public arena. Legislation to advocate for newborns with atypical sex development has become common, but perhaps the designated authority on the subject needs to be examined with a closer degree of scrutiny. Legislators, judges, and governmental authority may not have the scientific or psychological acumen to make a fair decision on atypical sex development issues at birth, or issues arising later in life, such as marriage. The growing trends in legislation of marriage typically state that a union can only be legally acknowledged between a man and a woman. Determination of sexual identity should be a personal decision, but if brought into the public sphere one must wonder how the situation is to be approached if the personal decision were to conflict with that of a judge.

There are numerous intersex conditions in which a male sex chromosome is accompanied by female gonads, female external genitalia or both. In some cases, female chromosomes are accompanied by a phallus and male or mixed gender identity. Legislation on “what determines sex,” would be impossible to discern, since no agreed upon definition or qualification exists. A popular press article from The Philadelphia Inquirer raised the question, “Can men

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marry if they have ovaries?", which exposed some of the complexities of sex determination on the basis of sex organs, chromosomal composition, and hormonal organization and activation (Flam). This article explains that there are at least seven accepted definitions of sex; therefore, a chosen definition carries with it some degree of personal opinion and arbitrariness. In a recent interview, an individual with complete androgen insensitivity syndrome (CAIS) has helped enlighten the general public on the topic: "I have testicles (internal) and a vagina. I have an F on my birth certificate but my bloodwork says my cells are all XY" (Flam).

The Texas Appellate Court decided that sex is determined by chromosome composition in the court case of Christie Lee Littleton (Mariner). In 1995 Christie sued medical doctors for malpractice upon the unexpected death of her husband. She lost the suit, because her marriage was declared invalid when the doctors proved her chromosomes to be XY. The extension of this type of ruling would prevent chromosomally male CAIS individuals, who are typically "female" by any practical accounts, from marrying a male. This invariably begs the question: would an individual with such distinctly feminine traits (CAIS male) be allowed to marry a woman? The judge may then use external genitalia and personal sex identity to invalidate that marriage. Non-consensual sex changes at birth and forced sex identity creates further gender uncertainty, which becomes another layered issue surrounding marriage (Mariner).

The judge in the above case has presumably not been trained in genetics or molecular biology, so one must wonder about his decision that chromosomes were the sole determination of sex. Perhaps fault can be attributed to the authorities on the matter, who also happened to be the defendants.

A New Consensus

Once brought to the public's attention, the matter can be openly discussed and more lives could be protected by a wide-scale consensus. There is hope that advocacy and exposure will encourage legislation to protect children born with disorders of sexual development, by avoiding arbitrary sex determinations and unnecessary surgeries. Such a statement, the "Consensus Statement on Management of Intersex Disorders," was published in November 2006, and has helped clarify the types of disorders and provide advice on treatment of infants with disorders of sexual development. Small support groups around the world have formed over the past couple decades to discuss and advocate against the shame, secrecy and unnecessary surgery performed without consent--although, ultimately (at least in the United States) parents have sole authority to give consent for their children's medical treatment. If this surgery were to be primarily cosmetic, surrogate consent might be less appropriate, which tends to be the opinion of many victims who regrettfully deal with these issues through their adult lives. The consensus is largely based on psychological research of self-identified intersex adults, their life experiences, and the hope they have for future individuals born with disorders of sexual development.

The consensus postulates:

- ◎ Nomenclature is important in helping with advocacy for the rights and psychological well-being of individuals. The preferential terminology is "disorders of sex development" to refer to any atypical congenital form of chromosomal, gonadal or anatomic sex.
- ◎ Gender identity cannot be reliably established at the birth of an individual with a disorder of sex development. Gender is a complex issue that no phenotype, hormone level or chromosomal composition can absolutely indicate.

- ◎ Assign an infant a sex at birth, but avoid the surgery. It would be more psychologically traumatizing to be brought up as “neither” in a world of two choices: “male” or “female.”
- ◎ Allow the child to develop in an extremely supportive environment, until a point when the individual clearly identifies as one sex or the other. This is said to be around three years of age, but remains undefined and based on the individual.
- ◎ Parents of these individuals deal with their own trauma and shame, and should have some legislative guidance in dealing with their child’s condition before they irrevocably decide on sex surgery for their child. The long-term effects of such surgeries are far more traumatic and marginalizing for the individuals affected with disorders of sex development. Such legislation has been instated in the UK and Columbia, to emphasize parental rights to parental responsibilities, and “qualified and persistent informed consent” over a period of time in decisions of sex change surgeries (Lee).

Behavioral Neuronendocrine Research on Intersexuality

Research using both animal and human subjects in the field of behavioral neuroendocrinology has provided the critical data to support the consensus statement. If assignment of sex is determined by the individual’s personal identity as either male or female, it might seem logical to examine the development of the brain and early-wired circuitry as a basis for sex identity. Recent biological research on sexual differentiation of the brain reveals hypothesized controls on the masculinization or feminization of brain tissue. The terms “masculinized” or “feminized” are used to indicate differential development of certain brain areas, neuronal wiring, concentrations of chemicals and hormones that vary between the typical developing male and female in the embryo.

Depending on the species, brain masculinization achieved through the development of male-typical neuronal wiring, and defeminization through the suppression of the female-typical wiring, is largely controlled by androgen receptor (AR) or estrogen receptors (ER) in the brain during an early critical period, usually prenatal or neonatal (Sato).

Brain masculinization was originally thought to be controlled by circulating testicular testosterone, but rodent experiments of the “remove and replace” genre have demonstrated that chromosomal females will demonstrate male-typical behavior (mounting) if treated neonatally with testosterone, and later in life with testosterone, as first discovered in the laboratory of W. C. Young (Young). The female-typical sex behavior of rodents, the arched-back lordosis posture, occurs around the time of ovulation when circulating levels of the ovarian hormones, estradiol (E) and progesterone (P) are high. In ovariectomized females, treatment with E and P will predispose the female to show lordosis when she comes in contact with an adult male. Chromosomal females (XX) were treated with testosterone during fetal development and then, as adults, they were ovariectomized and treated with E and P to test their female sex behavior (lordosis) in the presence of a male. The females treated with testosterone prenatally failed to perform lordosis behavior as adults when treated with E and P (Young). This work did not examine human sexuality, but it did show for the first time that the brain and behavior could be permanently masculinized or feminized during early fetal development. Since the time of Young, many aspects of sexually dimorphic behavior have been linked to the masculinization or feminization by early steroid treatment.

A later advance in understanding sexual differentiation of behavior came when it was discovered that testosterone is

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converted to estrogen, and through this conversion testosterone becomes an effective biochemical in the body. The aromatization hypothesis states: “actions of testosterone appear to be exerted not through its androgenic activity, but rather its conversion by brain aromatase into estrogen, with the consequent activation of ER mediated signaling” (Sato). An experiment by the Institute of Molecular and Cellular Bioscience found evidence to support that masculinization is dependant on both estrogen receptors and aromatase (to convert testosterone to estradiol) in the brain. There is evidence that estradiol (which activates the ERs) is sufficient to organize the brain. Evidence for this is based on reduced male-typical behavior when there were defects in ERs or aromatase. AR-null mutation in males completely lost the ability to perform male-typical behaviors, and treatments with nonaromatizable androgens (DHT, 5 α -dihydrotestosterone) were unable to restore male-type behavior in chromosomal male mice (Sato).

If masculinization of the brain is achieved by estrogens acting on ER, it is a scientific puzzle to determine why the female fetuses are not masculinized by their ovarian estrogen and the estrogen of their mother. In normal fetuses, the estrogen is bound by alpha-fetoprotein (AFP). Enough AFP must be secreted from the endodermal cells of visceral yolk sac, the hepatocytes, and gastrointestinal tract to bind to circulating estrogens of the embryonic female. A study by Julie Bakker has gathered evidence to support that AFP helps protect the female brain from defeminization by binding to estrogens in circulation, and preventing them from being taken up by ER in the brain. This protein gradually decreases in concentration after birth, and within 24 hours has decreased by 50% (Bakker). Only residual amounts of AFP are circulating after three weeks of birth. Bakker asserts that estrogens serve

to defeminize the developing brain, a conclusion she reached observing Afp^{-/-}, which is the notation for the experimental group that could not produce AFP. She found that Afp^{-/-} males were masculinized and defeminized, and the Afp^{-/-} females did not show any signs of ovulation or a female phenotype, but their behavior could be restored with a treatment of estrogen blocker (aromatase inhibitor 1,4,6-androstratriene-3, 17-dione) (Bakker). This data supports the conclusion that AFP helps protect the female brain from defeminization, and show that masculinization and defeminization of the brain involves a complex array of hormonal events.

The above data show that behavior is masculinized by the presence of androgens and estrogens, but it would be an oversimplification to suggest that the male brain develops in the presence of steroids, whereas the female brain develops "by default." There is a delicate balance in the secretion of hormones on the organization and activation, which could play a role in sex identity. For example, other data by Bakker show that even though a high level of estrogenic stimulation masculinizes the brain, a low level of estrogenic stimulation is necessary for full female development. Thus, it seems while some aspects of sexual differentiation of the male and female brain are predictable, many are very individual and undefined in the reality of sex assignment.

Although the process of becoming male and female is biologically complex, it is clear that there is a distinct and vital role for hormones during early development. Support groups actively work to raise awareness that ambiguity is not "wrong" or unacceptable to society; differences should be embraced with understanding, not placed on a medical examination table to be dissected and scrutinized.

It is difficult to imagine the trauma and psychological

damage one must endure as an individual with a disorder of sex development, not only dealing with confrontations on sex identity but also with sexual orientation. The issues are complex and nearly impossible to resolve when dueling with authorities with a black-and-white mentality who are obsessed with semantics and the determination of sharp parameters for sex, gender and legal marriage. A vast number of processes are involved in complete sexual development, incorporating the internal reproductive system, the external genitalia, the wiring of the brain, and relative hormone concentrations. The intricacies each of these processes brings can create a chaotic and confusing situation that is best left to the individual to decipher, in a safe and comfortable environment in which they can readily receive positive support. Developing a friendship with Marie has really helped me begin to understand the complexities that arise from a disorder of sex development . Intersex conditions need to be accepted and understood, not stigmatized. With increased conservative influence in the creation of gender-relation legislation, it is particularly important that equal treatment and opportunity are advocated for this needlessly marginalized group, including countless others like Marie.

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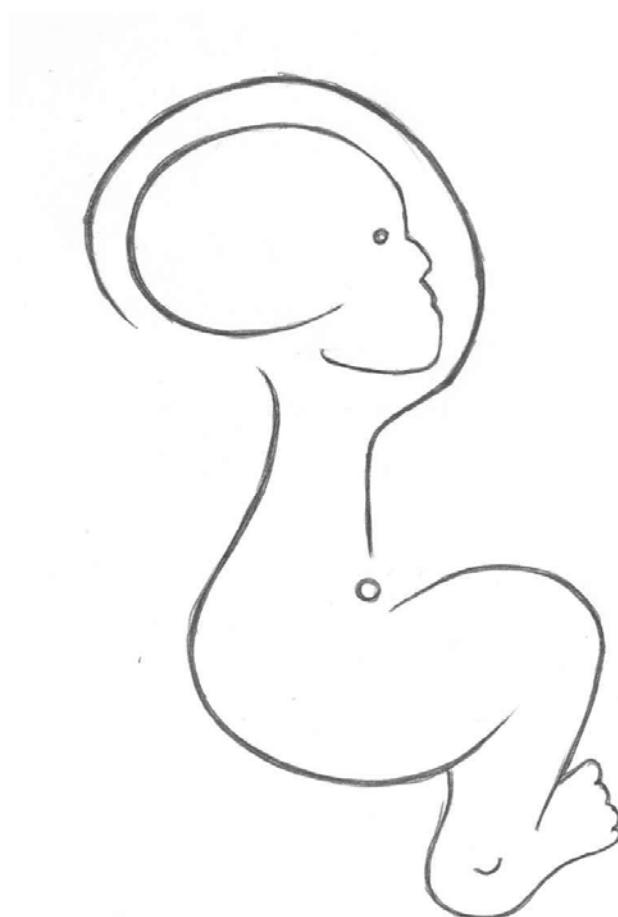
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Case 17:

An Intersex Infant and Decisions about "Normalization"

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Danielle Schefer

Nicole DeWitt
Katharine Hessler
Dayne Mickelson
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The genesis of a new life into the world is a joyous occasion and the experience, although quite a travail for the mother-to-be, ends in the momentous entrance into parenthood for both the mother and father. Imagine, however, that this happy milestone is immediately marred by the presence of a medical abnormality. This is what occurred in the case of Fred and Jenny D., the new parents of an otherwise healthy baby boy, save for his extremely small penis. Although the infant had been born with all of the correct male anatomy, including testicles, his penis was so small that it had created confusion as to the actual sex of the child. Fred and Jenny D., who are supposed to be celebrating the new life of their child, are suddenly faced with an incredibly difficult decision. Physicians have advised that in order for the infant to garner healthy psychosexual development that it must have a social assignment to one specific gender and have the according genital appearance. As the infant's penis is so small, it has been recommended by a team of physicians that the baby's testicles be removed and that additional surgery and hormonal therapy be given to the child so that it may be raised as a female. The parents are to consider the above proscribed treatment, as well as the option of letting the child be and raising it as a boy, providing psychological therapy as need be.

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and allowing the child to make decisions on his own concerning his sexuality when he is older.

What is the correct course of action for the new parents Fred and Jenny D. to take in this situation? That is, which decision would be most supplemental to the child's long-term interests and health? How can the team of physicians better aid the parents' decision making? These questions can only be answered through a discussion of the moral issues at stake with concern to the case and their application to the life of the intersex newborn. At the heart of the issue is concern towards the autonomy, paternalism, and beneficence of the infant. Secondary arguments revolve around the role of the above-named physicians, maleficence, and justice.

In order for one to be an acting agent in our society one must have autonomy, or self-determination. With all medical decisions, one is usually entitled to their own self-determination with regard to treatment, yet in this circumstance the newborn child cannot exercise his autonomy since he is not of a high enough cognitive mind. Thus, in effect, paternalism, the attitude that others must be taken care of or controlled for their own good, must be applied by the infant's parents. Enforcement of paternalism will maintain a determination as to what medical measures must be taken so that the best interests of the child are represented by reciprocal medical treatment. Only one of the two options detailed by the physicians allows the newborn to delineate its own path in life with special concern to his ambiguous genitalia, while the other places the burden of the medical decision entirely upon the newborn's parents. Here, the infant's parents are faced with the task of "forcing" a gender assignment upon their child, or allowing their child to develop into his adolescence as is, allowing him to make the choice later in life on his own accord.

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Following this discussion comes the introduction of bene-ficence, defined as the ethical principle that requires that medical providers and parents do what is in the patient's best interest. This is a particularly difficult area with concern to intersex infant situation as one can argue beneficence for either course of action, either autonomy for the child later on in life, or paternalism by the parents in "normalizing" the infant. Until recently, the standard medical approach would be to perform a "normalizing" surgery with a plan of shielding the maturing child from the truth about their true condition. This method is seen as being in the overall best interest for the patient's psychological benefit and future social acceptance. Corrective surgery to turn a genotypic boy into a phenotypic girl is generally not necessary for protection of life or health, but rather purely for aesthetic and social purposes. Defenders of this view argue that it is necessary for an individual's own good to be clearly identified as male or female in order for them to function socially and not have long term psychological affects concerning their ambiguity. However, although "normalization" seems to be a good option, there have been many intersex individuals who have recently decided to publicly speak out as to their resentment of the sexual reassignment surgeries performed on them when they were infants. In these cases what was at first deemed as a beneficent act has, in the end, actually turned out to be a maleficent act. The paternalistic decision made for sexual assignment and the attempted shielding of the patient will, in the end, hurt the individual more.

As is obvious, having a child with an ambiguous sex is an inextricably confusing situation for parents. In previous discussion it was observed that many older adults, who have experienced "normalization" or sexual reassignment surgery, have come to resent the medical decisions that were made for

them without their explicit consent. It can be argued from this viewpoint that sexual reassignment surgery would become a maleficent act in the eyes of the previously gender-ambiguous individual. If surgery is the preferred method of “treatment” for this issue and the outcome of it is not what the affected adult would have wished for, then the pain and suffering of the gender reassignment surgery and hormonal treatment will have been for naught. The potential emotional scarring from such an act could run deep- it is impossible to predict how the affected individual will react to this sort of medical treatment when they have grown old enough to fully comprehend the choices made for them. It is also possible that the parents of such an affected infant may withhold the information concerning the sexual reassignment from the child in order to “protect” him from the truth of the situation, which although *prima facie* seems to be a benevolent act, in the child’s majority, it will become a malevolent one which may spark feelings of hurt and betrayal in the affected individual.

Another ethical issue that must be considered in the analyzation of the intersex infant case is justice, that is, the proper distribution of medical resources. In the case of gender reassignment surgery, it is clear that more medical resources will be used if the male infant is changed to a female. Multiple surgeries, hormonal therapy treatment, and psychiatric treatment on the whole will cost more than a problem that could potentially be alleviated with solely psychiatric treatment. Such extensive medical treatment should be reserved for those in greater need of therapy, and not on individuals whose problems may be treated with simple psychiatric services alone. Regardless of whether or not the gender-ambiguous infant is given the surgery, the child will require mental health care. With this sort of a prognosis, it can be surmised by opponents to the surgery that more good will

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be done for a greater number if the child is left as a boy, freeing up medical assets to use in more urgent medical situations than that of an intersex infant.

With these facts in mind, the question arises as to the specific role of the physicians involved in this case. The physicians in particular invoke several of the moral considerations already discussed, including paternalism and beneficence. Also to be mentioned are the roles the physicians play with regard to maleficence, justice, and most importantly, informed consent. Without informed consent, the infant may be unintentionally harmed and maleficence will occur on the whole as a result. Informed consent arguments come into play in the case of the intersex infant as regardless of what route of treatment the parent's of the infant decide to traverse. The physicians must fully inform the parents of the details, benefits, and disadvantages of each choice to fulfill consent. Physicians are morally and legally bound to inform patients, specifically the parents of the intersex newborn, of all possible medical options so that the best decision, medically and ethically, can be made for the patient keeping their best interest at the forefront of the determination. In addition, in these intersex situations the medical team is not only treating the patient, but the patient's parents and family too. In these circumstances parents need emotional support and unbiased help in making an informed decision. To make an informed decision they should be provided with a plethora of resources detailing the intersex condition. They should also, perhaps, be provided the opportunity to speak with intersex individuals who have both had and not had the initial "normalizing" surgery. In the end they should have the freedom to make a medical decision on their child's behalf in the absence of outside pressure, while fully having a clear understanding of their options.

On the whole, with the given facts, it could be easy to sway either way on the course of medical treatment that should be given to the intersex infant in question. Should the infant undergo sexual reassignment surgery and be raised as a female? Or should the infant be raised as a male and be allowed to make his own choice concerning his sexuality when he has reached his majority? Which of these decisions would be of most benefit to the child and which would be the most malevolent? Is justice served in either case of treatment? Even armed with unbiased information as to both sides of the argument, it is a daunting task to attempt to solve this inarguably complex problem.

Our Decision

In an unwavering unanimous judgment, it was decided that the intersex infant should be raised as a boy, receiving psychiatric counseling if and when needed, and be allowed to make any major decisions about his sexuality when he is older given the evidences provided for this case in point. This was considered the most morally sound option of treatment as it affords the intersex infant with optimal opportunity for both happiness and a normal, healthy lifestyle. In such a complex case, the court must often act as the parent's *patriae*, acting in the best interest of the affected individual. In this unanimous decision, the best interest of the intersex infant has been represented fairly and adequately, with all other options given equal consideration. The rationale for this decision was based upon arguments which stemmed from discussions of autonomy, beneficence, and maleficence.

With respect to the autonomy of the intersex infant, by choosing to avoid unnecessary surgery and hormonal treatment, the new parents will be employing the best interests of the boy. Such a choice allows for the securing of future

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autonomy for the intersex infant, allowing him to make all major decisions concerning his sexuality when he is older, being that his interests in that regard are currently unknown given his status as an infant. By taking this course of action, the boy's liberties are in no way infringed upon and he may make this important decision on his own as he develops into a mature and responsible adult with his own views and opinions about himself, the world, and society at large. This being the case, it would be unethical for the parents of this intersex infant to force a conflicting sexual assignment onto him as it would not be in his best interest.

With special attention to beneficence, the fact of the matter is that sexual and gender identifications are more complicated than a surgical decision that claims to split the human experience of it into two neat, simple classifications. Many intersex people later suffer, rather than benefit, from a surgical sexual reassignment which they did not consent to because of a strong identification with the "excised" sex, decreased sensitivity of their modified organs, or problems resulting from the initial surgery. What is truly in the intersex infant's best interest is for the parents and medical practitioners is to accept the affected infant's condition and throughout the years, as they come into competent mind, divulge the truth to the infant's about their ambiguous sexuality. The intersex patient should then be provided with ample counseling and information about the condition. No more surgery should be performed before the infant has reached the age of consent than is necessary for his physical health. Once the infant reaches a competent age he can make his own informed decision about what will truly be the best option for him personally. In addition to the beneficence garnered by the intersex individual, many other patients in need of treatment, be it surgical or hormonal, may receive it if

the intersex baby does not use up resources that are unnecessary to him. The freedom of medical services incurred from the intersex individual foregoing surgery is not only beneficent to others, but serves the purpose of medical justice as well.

As was previously discussed, the premise of maleficence plays a large role in the decision that was made in this case. Of specific note is the fact that perhaps the parents of an intersex infant that has undergone a sexual reassignment surgery may hide the truth from their child in order to “protect” them. If, in fact, the truth of the matter at hand must be hidden from the child for his “protection,” can the parents truly believe that they have made the correct decision in having a surgical sexual reassignment performed upon their newborn child? The very word “protection” invokes imagery of solace from inordinately horrible or fearful things- is sexual reassignment surgery something that warrants protection from knowing the truth of it? If so, then a decision to go through with such a surgery would surely render that decision morally unacceptable. If the truth in such a case were initially withheld from the intersex individual and discovered at a later time, it would not only be devastating for the intersex individual, but it would also truly hamper the former trusting relationship between the intersex patient, his parents, and perhaps even future physicians for fear of other truths being withheld.

The choice to allow the intersex infant to be raised as a male and to make its own decisions concerning his sexuality raises no questions as to the autonomy of the infant; it harbors no ill feelings of fear as such a decision would never be a skeleton in the family’s closet; it allows for the full utility of the infant and keeps the best interest of the infant in mind at all times. With the provision of psychiatric counseling and only as much surgery as is needed to keep the child healthy,

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the decision to allow the intersex infant to be raised as a genotypic male, as it was born, is the best decision possible in such a case as described because it is the most reasonable and the most ethically sound.

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This year, in a special segment for the *Review*, we held a contest among local high schools to see if we could find a paper of such high quality it merited us turning our frowns upon. Turns out, there was one. And this is it. Congrats, Jules.



White Teeth, Sibling Rivalries, and Zeno's Paradox

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We live in a world where the tangible is believed—if you can touch it, it's real. We use our senses to differentiate between objects by weight, size, and texture; even if two objects are physically equivalent, they are still separate entities divided by space. Every object can be seen as singular, existing apart from the rest: *multiplicity, many*. When we look below the surface, however, on a molecular level, every single thing is made of the same, essential components—the building blocks of matter, the basic structures of all physical things are identical, every object is simply a different arrangement of protons, neutrons, and electrons. In effect, the world is a ubiquitous, continuous mass of subatomic particles: *singularity, one*. Yet, how can everything be separate and together simultaneously? In *White Teeth*, author Zadie Smith explores this idea, known as “Zeno’s paradox,” in relation to the people, beliefs, and relationships that inhabit her novel.

Zeno’s “angle,” as Smith puts it, deals with the paradox of reality as both a single entity and a collection of parts by recognizing that before acknowledging the oneness of the world, one must “first establish multiplicity... as an illusion” (384). It sounds deceptively simple, but recognizing all differing facets of the world and finding a continuum of oneness that they share can prove to be impossibly difficult. Even establishing the nonexistence of multiplicity on a limited level, say between two people, and finding a singular

connection between them can be extremely challenging and ultimately unsuccessful. Smith addresses the inherent difficulty of this situation when discussing the relationship between Magid and Millat Iqbal, a set of Bangladeshi twins who are separated as young children by their father, Samad.

The Iqbal brothers are two physically identical males who grow up in completely different environments, (Magid in Bangladesh and Millat in London) and develop into two completely different people. To over-generalize, Magid becomes an intellectual gentleman who has strayed from his native religion, Islam, and instead idolizes Marcus Chalfen, an established geneticist who has worked to ‘play God’ by genetically altering a rodent. Millat, meanwhile, becomes a mischievous belligerent who has deeply infused himself in KEVIN, a violent Muslim fundamentalist group that wholly opposes Chalfen’s genetic studies. These dissenting personalities clash violently upon meeting in person for the first time in years.

According to Zeno, these twins, as with everything else in the world, are really one. Their beings should melt and mesh together once their differences are established as fantasy. In reality, however, when the twins meet and attempt to reconcile their sour relationship, their diametrical opinions prove to be just too much. From first sight, Millat cannot, or perhaps will not, even recognize his and his twin’s physical similarities. Millat is astounded at Magid’s unfamiliar “line of the jaw...eyes... [and] hair” (382). When the twin brothers talk, they cannot get past their religious disagreements, their varying beliefs, or their discordant individual experiences. The neutral room in which they meet transforms as they “cover the room with history-- past, present, and future,” and excitedly argue about “every debated principle [possible]” (383). The twins bludgeon, rationalize and analyze for hours,

only to find that they have made no progress. Magid and Millat spend their time not really listening, trying instead to make one another see the other's way, thus becoming "trapped in the temporal instant" (384). Each brother establishes so firmly his point of view that he leaves no room for discussion, for reasoning, or for contemplation. Eventually the Iqbal brothers find themselves stuck in the exact same place that they started because they are so stubbornly unwilling to compromise. Ironically, the harder they fight for each other to see the 'correct' opinion, to agree and give in, the more "nothing changes" for Magid and Millat and the more they find themselves "running at a standstill" (384).

Despite Zeno's assertion that the world is one and that multiplicity is an illusion, the Iqbal brothers cannot manage to see the inconsequential nature of their arguments, and instead leave the "neutral room as they had entered it: weighed down, burdened, unable to waver from their [respective courses]" (384). It seems their increasingly eloquent persistence to "divide reality inexhaustibly into parts" and articulate their perceptions with endless words tirelessly distances themselves from Zeno's peaceful singularity (384).

In spite of the obvious, clashing differences between the brothers, many other arrows in the novel point to the existence of a oneness between Magid and Millat. To start, the fact that the brothers are identical twins signals a deep, prevailing connection that they have shared since birth. Coincidentally (or not), they both break their noses, resulting in the same crook in the nose and in a continuation of their mirrored appearances. Both names, beginning in "M," lend themselves to alliteration and to a subconscious inclination to somehow link the two men.

Even deeper than looks or titles, both Magid and Millat share similarities in personality and beliefs that lie beneath the

surface. Perversely, these parallels in character seem to lie at the heart of their most vehement conflicts. Both brothers, although set on two very different “dangerous trajectories,” find themselves having taken undoubtedly extreme paths in life. Magid is involved as a pioneer and supporter of the radical scientific frontier, while Millat is embroiled as a leader of a radical religious group. The brothers’ specific interests immediately clash, but the fact that they both have found positions so drastic and defined signals a connection. They are both of the same mind to seek such extremity and take such a rooted, unmoving stance in their respective beliefs. This personality trait, this revolutionary tendency, ties the twins together in a distinct way and reveals a “flowing oneness” between them.

In addition to their tendency towards radicalism, Magid and Millat, sadly, also share the disapproval of their father, Samad. Samad, an Islamic Bangladeshi immigrant, always dreamed that his two boys would retain their Bangladeshi culture and stay true to their Muslim roots. Despite Samad’s multiple attempts to cultivate these characteristics in Magid and Millat, however, the brothers disregard their father’s dreams and take their own cultural and spiritual courses. Samad sends Magid back to live in Bangladesh as a young child, hoping that he will learn to be a pure holy man. Instead, Samad’s plan to produce a devout Muslim backfires, and Magid becomes a “distinguished-looking young man” (239) who seems to turn his back on the Muslim acceptance of and submission to the Islamic God. Millat, on the other hand, becomes involved with radical Islam, joining a notably violent Muslim group that accepts God but insists that “religion [is]

not one based on faith”¹⁷ (367). Magid’s academic conquests and Millat’s divergent religious convictions are equally painful for Samad, who only longs for two truly Muslim children.

Although the twins’ similar proclivity toward pursuing the ‘extreme’ is meaningful, perhaps the most significant trait that these two brothers share is their attachment to the past. Heavily influenced by their father, Samad, Millat and Magid both find themselves unable to “escape their history any more than [one]... can lose [one’s] shadow” (385). Samad, who chronically fears the loss of his culture in the folds of his overwhelmingly English environment, passes on his obsession to preserve one’s history for better or for worse to his two sons. Magid and Millat carry their experiences around with them as constant reminders of their family, their dissonant relationship with each other, and their sore differences. The twin brothers frantically and articulately “express their past[s], [those places] they have just been” to ensure their preservation (385).

The personalities of the Iqbal brothers are black and white in detail and in practice, but they have similarities which are far more fundamental than any scientific or religious belief. Whether it is due to their upbringing, their family, or their environments, Magid and Millat have both chosen to experience the world radically and remember the past with incorrigible resolve. Although their “genes... have reached different conclusions,” the personalities of Magid and Millat Iqbal *do* accomplish Zeno’s paradox (382). The multiplicity of their opinions and characteristics can be traced back to their roots and inherent tendencies, where oneness

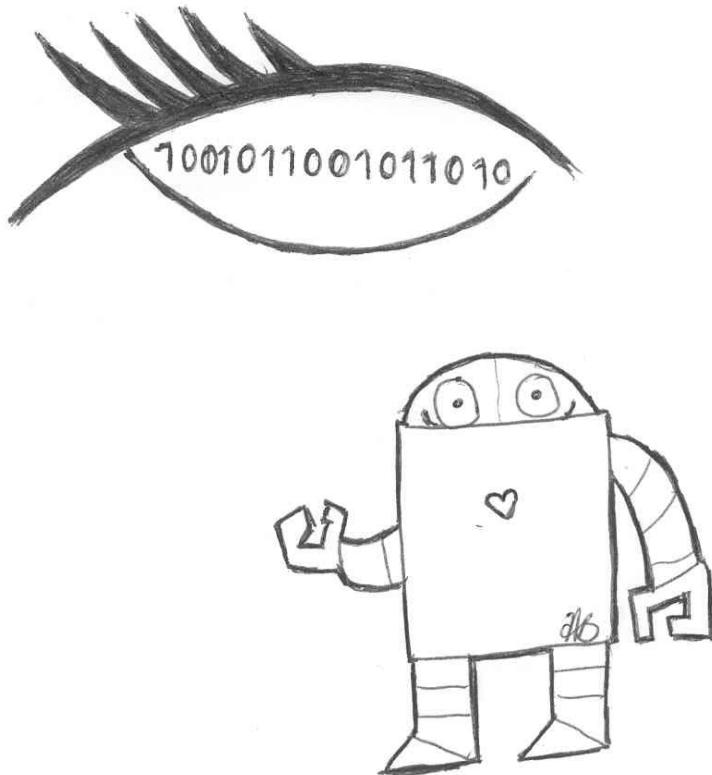
¹⁷ KEVIN preaches that its Muslim tradition “could be intellectually proved by the best minds” (367); they believe there is no blind uncertainty involved.

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flowed long before complex discord fiercely split the brothers apart.

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Hayley Bonsteel



From Femme-Bot to Dominatrix: The Spectrum of Female roles within Science Fiction Cinematography and Literature

Katherine Wegert

Female roles within the science fiction genre are typically an easy target for feminist critique. Within this context we usually see women representing one of two stereotypes; the victim or the dominatrix. Both are over-sexualized and both fulfill male fantasies. For example, in Philip K. Dick's novel, *Do Androids Dream of Electric Sheep?*, we meet Rachael Rosen, a femme-bot or android, who is docile, child-like, unemotional and detached, but also very sexual. She is the protagonist's object of desire, and represents the woman who says "no" but really means "yes" when it comes to sex. Rachael is exploited but is depicted to seem she enjoys fulfilling male power fantasies. On the other hand, we see the dominatrix of William Gibson's novel *Neuromancer*. She is confident, competent and equally skilled as her male counterparts. However, Molly is too hard, cold and masculine to represent a role model for femininity. She is dominating, unemotional, detached and over-sexualized. She is also a specific type of prostitute; she dominates and beats men during sex. Clearly, Molly's female strength crumbles as she fulfills the male fantasy; the woman who wants sex without emotional attachment. Can a strong female ever be correctly represented while upholding her femininity? Within science fiction, we see some of the most stereotypical representation of women. Many sci-fi literary works uphold anachronous views of male domination and

female inferiority. Their literature degrades and exploits women, defining them as sex objects. Because this genre is predominantly masculine, feminism and positive female portrayal is rare. By analyzing how women are presented in science fiction, and by defining strengths and weaknesses in various female characters, we can acquire the best possible representation of strong femininity. Furthermore, we can hope literature and film will move towards a more progressive, equal portrayal of masculinity and femininity.

In *The Matrix*, Trinity seems to find this balance as a strong female character. Throughout the movie, Trinity is portrayed as a leader and mentor. She is a tough member of the team and can physically defeat men. She is also caring and compassionate, and specifically has romantic feelings for Neo. Trinity is not over sexualized and her role is not focused on or defined by the fact that she is female. The final scenes get complicated as her role shifts into the predictable female romantic role. The love between Trinity and Neo is based on fate, faith and connection rather than sex, infatuation or domination. Trinity risks her life to save Neo by re-entering the matrix, and her kiss saves his life. It is Trinity's strength as a woman that saves Neo.

While Molly and Trinity are aggressive and strong women, Rachael Rosen is depicted as the docile, child-like machine. In Dick's, *Do Androids Dream of Electric Sheep?*, Deck, the protagonist, recognizes his attraction to Rachael immediately after meeting her, "Some female androids seemed to him pretty; he had found himself physically attracted by several, and it was an odd sensation, knowing intellectually they were machines but emotionally reacting anyhow" (Dick 95). This quote clearly shows the fantasy that Deck is beginning to develop, and his curiosity to engage in sex with an android. This passage continues to describe

Rachael: "No, he decided; she's too thin. No real development, especially in the bust. A figure like a child's, flat and tame," (Dick 95). Initially, Deck tried to deny his attraction to Rachael because he is married. He struggles with fantasizing over a femme-bot whom he knows is not real, but is in fact thinking about her sexually. Over time this attraction escalates and their relationship develops into something deeper and more intimate.

Fellow bounty hunter Phil Resch and Deckard later on discuss the empathy felt after killing Luba Luft, a female android. Resch believes that Deck is sexually attracted to Luba which creates a professional hindrance: "Because she-it-was physically attractive...We were taught it constitutes a prime problem in bounty hunting. Don't you know, Deckard, that in the colonies they have android mistresses?" (Dick 143). The fact that Resch describes this attraction to female robots, as well as the existence of android mistresses, only further proves femme-bot fantasy is common and accepted, and allows Deck's own fantasy to develop. Additionally, Resch says, "'If it's love toward a woman or an android imitation, it's sex. Wake up and face yourself, Deckard. You wanted to go to bed with a female type of android --nothing more, nothing less,'" (Dick 143). Resch then disturbingly encourages Deck to sleep with an android before killing it as a way to fulfill his fantasy without risk of emotional attachment.

As Deck questions his feelings, he asks Rachael to accompany him to help identify and retire the other androids. He rents a hotel room and tells her to come down to San Francisco. When she asks why he says, "Something I heard today...About situations involving human men and android women," (Dick 183). Deck is referring to and exploring his desire to have sex with androids. Once she arrives, he studies her physically and reflects on his attraction to her, even

though she looks more like a girl than a woman (Dick 187). This is also a pedophilic male fantasy; the desire to rape or have sex with young girls. Deck's attraction along his description of her child-like appearance verifies the presence of this fantasy. The two of them begin to get drunk, get on the bed and begin to kiss. Afterwards, Rachael seems to be unaffected or unchanged emotionally, "Leaning forward an inch, he kissed her dry lips. No reaction followed; Rachael remained impassive. As if unaffected," (Dick 189). Kissing is often seen as the epitome of emotional intimacy, connection and care, and is usually something a woman deeply desires. However, because Rachael is a robot, she lacks this emotional side and solely wants sexual pleasure, which is usually something a man deeply desires.

Rachael says she is too drunk to leave, proposes they go to bed together and begins undressing. Here she is trying to seduce him but makes him initiate sex. Women in Western society are taught to be pursued by men. Although she has strong sexual desire for Deck, she places herself in a position for him to take advantage of her, by undressing and getting drunk. Rachael wants him to initiate sex. Deck feels uncomfortable with the situation as he struggles internally with his desire. He believes he should not sleep with Rachael because she is robot and he is married. Rachael senses his hesitation and tries to persuade him, "'I'm not alive! You're not going to bed with a woman. Don't be disappointed; okay? Have you ever made love to an android before?'" (Dick 194). Deck is still tentative, so Rachael demands him to get into bed and they have sex. On one hand she appears to seduce him, but afterwards she blames Deck for the sexual encounter, "'We androids can't control our physical, sensual passions. You probably knew that; in my opinion you took advantage of me,'" (Dick 196). Women in American society are also taught

to not be sexually promiscuous and must deny their desires. After a woman sleeps with a man, she is supposed to feel guilty. Men often think women really want sex even if they resist it. Rachael is playing into this scripted role and is like the exploited female who really wanted sex, and arguably another male fantasy. This representation of women that Dick creates supports male domination and female oppression, rather than challenging these stereotypes in a predominantly masculine genre.

From the docile, child-like, passive female fantasy, we move to the other extreme within science fiction; the dominatrix. Unlike Rachael, *Neuromancer*'s Molly is an overtly aggressive and sexual pursuer. Initially, one may view her as a strong female. She is confident, competent, independent and extremely skilled at the art of the ninja. She will never be subordinate to a man she is with sexually and must always be in control during intercourse. However, her image in *Neuromancer* is too hard, and masculine to be identified as a positive portrayal of strong femininity. When Molly first meets Case, she intimidates and threatens him:

'Molly, Case. My name's Molly. I'm collecting you for the man I work for. Just wants to talk, is all. Nobody wants to hurt you...'Cept I do hurt people sometimes, Case. I guess it's just the way I'm wired....you ever try to fuck around with me, you'll be taking one of the stupidest chances of your whole life.' (Gibson 25).

Molly is establishing her power over Case as a ninja and woman upon this introduction. Afterwards, Case wakes up suddenly, unaware he's been drugged. Molly is straddling him. She completely dominates him in this scene and Case has no choice but to have sex with her. The description of their sex

is also very raw and violent. There is no sensuality or connection between them: "She rode him that way, impaling herself...until they both had come...a vastness like the matrix, where the faces were shredded and blown away down hurricane corridors, and her inner thighs were strong and wet against his hips" (Gibson 33). Molly talks, acts and has sex like a man. She also denies her emotions like a man. Molly always has sunglasses on and spits, which we later learn is her form of crying; her tear ducts have been rerouted to flow into her mouth. She cannot show any emotion in her face. She has no emotional attachment to anyone or anything. This is vital to her failure as a strong female. Women depicted in science fiction struggle to establishing themselves among men while simultaneously trying to prevent being a male fantasy or an object of sexual desire. Male science fiction authors are perpetuating stereotypical female fantasies in their literature, instead of representing a strong woman positively. Molly cannot just be competent, but she must also be judged on her sexuality simply because she is a woman.

Although Molly seems unemotional, Riviera affects her through her sexuality and his desire for her. He puts on a projected hallucinatory show that portrays him having sex with an image that looks like Molly. Riviera projects this show in front of a large audience and shows him dominating her. We learn how Riviera fantasizes about Molly and she must sit there and watch it without showing emotion. He tortures her mentally in this scene, "I don't know when I first began to dream of her...I couldn't quite hold her, hold her in my mind. But I wanted to hold her, hold her and more..." (Gibson 140). Once Molly cannot take any more public exploitation, she flees immediately and Case goes running after her as he is equally disturbed by Riviera's projection. He finds her at the Chiba, an old hotel where people go to have sex with 'puppets' or

prostitutes. These women are computer programmed to not be fully conscious when they are used sexually. Before Molly was a ninja, she was a prostitute. She explains this past to Case:

You know how I got the money, when I was starting out? Here...Joke, to start with, 'cause once they plant the cut-out chip, it seems like free money. Wake up sore, sometimes, but that's it. Renting the goods, is all. You aren't in, when it's all happening. House has software for whatever a customer wants to pay for. (Gibson 147)

Molly's casual attitude about her sexual and mental abuse is very disturbing to Case, who is expecting her to be more emotionally expressive. Molly continues to explain how her computer cut-out chip got disturbed when the owner put in new software and because of this, she started to remember being abused. One time she woke up completely during sex and was so hurt and disturbed, that she left the Chiba. We do not see any of Molly's emotions physically in this scene, but we can infer she psychologically affected as she fled Riviera's projection. She is forced to deny and stifle her emotions like a man to remain a strong ninja woman.

Molly's past as a prostitute shows that she is an object of sexual desire and one that succumbs to men's needs. Even if she was not fully conscious during sex, she was being exploited and used. She still submitted to the male fantasy of dominating women in prostitution. Riviera shows his desire to have sex with Molly, which confirms her representation as the dominatrix. He fantasizes about Molly, which subordinates her, and because she has been exploited before, she cannot cope emotionally. This submission to men in conflict with her extremely masculine and overly strong character shows us how Gibson fails to create a strong female his novel. Her

strength becomes her weakness, because she is too strong. She represents the typical dominatrix and this fulfills a male fantasy; a woman who desires sex without emotional connection or attachment. Her breakdown in Riviera's scene and prostitution also weakens her character as a woman and shows her subordination to men.

In *The Matrix*, Trinity falls somewhere between the dominatrix and the passive femme-bot. She represents the best model for positive femininity in these three works. She is similar to Molly because she portrays physical and mental toughness: She is extremely skilled as a ninja. No one seems to be able to stand in her way; she can physically fight groups of men at a time. Trinity is also a leader and mentor to Neo. When she first introduces herself to him, her mysterious questions spark his curiosity and intrigues him to follow her. She does not threaten, intimidate or seduce him. Once Neo realizes who she is, he compliments her famous hack into the IRS and says, "I thought you were a man." She replies, "Most people do." This shows how Trinity's abilities are just as good as a man's in a stereotypically masculine arena; computers and technology. Once he follows her lead, Trinity explains their situation and skillfully removes the "bug" that has been planted inside of him. As Neo adjusts to his "awakened" life, we see Trinity develop more feminine traits. She passively observes him. Her interaction with the crew is docile and quiet. Trinity brings Neo food and tends to him while he rests, taking on a more domestic role. Their relationship develops but there is no overt sexual desire. She balances her hardness as a fighter with a tender, caring side. Her character is defined by this strong portrayal of femininity.

Trinity's compassion extends to her crew. Cipher is a betraying crew member who gives the enemy Agents Morpheus' location. As Cipher begins to kill members of the

ship and Morpheus gets captured, Trinity does not cry but empathizes with the dying crew members. She tries to clean up their blood and gently touches them, only to turn around and seek vengeance. However, Neo realizes he must save Morpheus by fighting the Agents. Trinity requests to come with him and Neo demands, “No!” At this moment, he is trying to establish new power over Trinity, who was formerly the advantaged leader and mentor. Instead of letting him go alone, Trinity says she is in second command, the current leader of the ship, and tells him to go to hell. This shows Trinity’s strength and power, even over the man she is destined to love.

This leads us to the ending of the movie where Trinity’s femininity get complicated. Throughout the movie, Trinity has presented a balanced femininity as the competent and strong but caring woman. However, the Oracle told her that she is destined to meet “The One” and love him. Essentially, her life’s fate is to love and care for a man. This is what brings her to follow Neo into the matrix. As he lays there dying, Trinity kisses him. In this moment, Neo is brought back to life. As the kiss is a salvation for Neo, it may also undermine her feminine strength. Her kiss represents a gesture of love which, typically in science fiction, seems to define a woman’s worth.

However, we ultimately see Trinity’s strength shine though and can see this happening in the context of this moment. First of all, Trinity saves Neo by bringing him back to life. The conventional story would instead position the woman as the victim. Because Trinity is strong and competent, she can reverse the roles and save Neo. Throughout the film’s entirety, there is no sexual exploitation or signs of explicit desire between Neo and Trinity. Trinity does show care and yearning for connectivity and this is evident towards the end and in the film’s final moments. As much as a kiss may imply

that women are always define by their sexual and emotional attachment to men, Trinity is autonomous, independent and strong. She is not represented as a male fantasy, as Rachael Rosen and Molly are, but is a balance between these two extremes. Rachael is unemotional and detached but desires sex. She is a sex robot male fantasy. She portrays the latent desire of women in American society. Rachael also looks like a young girl, which also represents a male fantasy of pedophilia. Molly is the prostitute dominatrix; another male fantasy. Both of these female characters subordinate to men. In The Matrix, Trinity positively portrays a feminine role model and if anything, the kiss validates her ability to be powerful physically, mentally and emotionally.

After analyzing the strengths and weaknesses in each of these female characters, we have learned that a strong woman is competent and caring, skilled and loving. Trinity is represented as a powerful female able to maintain her femininity. Through characters such as Rachael Rosen in *Do Androids Dream of Electric Sheep?* and Molly in *Neuromancer*, stereotypical sci-fi female roles are emulated. Although they are very different characters, both are depicted as exploited, inferior and sexualized women. While science fiction may often hold negative, stereotypical representations of women, Trinity's character thwarts this portrayal and can serve as an example for future science fiction literature and cinematography.

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Hayley Bonsteel

HB



*Beauty:
Sensational Experience*

Michael Murawinski

The Question

Like all things immersed in abstraction, beauty is a difficult term to truly define. Yet, when focused on a single object or entity presented to us clearly, we are able to label the thing as such: beautiful or not. How can something be so hard to define if determining the presence of beauty comes so easily to us? It is almost as if there is a list of specific criteria that we have reserved somewhere in the annals of our minds that explicitly tells us that:

- *A* is beautiful.
- *B* is beautiful.
- *C* is not beautiful.
- If something is *A* it is more beautiful than *D*.

Although we can simply label these feelings as innate reactions and be done with it, there is a level of reasoning behind them. Problems occur when we try to define beauty just as quickly as we recognize it because often these feelings are encrypted and difficult to put into words. But when we do take the time to look and explore the myriad possibilities the term "beauty" suggests, its definition both simple and complex, *can* be found and *does* reveal itself eventually, if not immediately.

Beauty as an Object of Desire

One way to define something is by describing its relationship to something else. For me (and all the other poor souls who have been claimed in its sake), one of the most beautiful things that exists in this world is love. I believe that love is bound to beauty¹⁸ in the sense that people who love must also be aware (either consciously or otherwise) of the beauty that is within the person or thing that they love. In order to love, one must be able to find the beauty on, in, or about the love-ed.

However, while it is impossible to find two people in love with each other that do not claim their significant other to be beautiful in some way¹⁹, one does not need to love someone or something in order to find them/it beautiful. Beauty is

¹⁸ If two people do not find each other beautiful and still claim that they are “in love,” then I believe they are “in love” by means of utilitarian benefit; that is to say, they “love” each other for the sole purpose of comfort in the act of merely labeling themselves as “in love.” They “love” only for the sake of the word and not for the deep caring and appreciation that is involved with “true love.” Also, love can often be ruined or perverted (as in murder occurring because someone says they love someone too much) in which case it becomes something that is not beautiful. In that case it is in the term “love” and not the feeling of the individual that beauty disappears. A perversion can still stake a claim in beauty as the reason for its inception, but perverted love is not a condition that is beautiful in and of itself. For my purposes, I am disregarding these ways of loving in my discussion and limiting myself only to real, positive, and – in the case of two people – shared love.

¹⁹ Two sexual partners might not love each other completely (as if the above footnote), but they might still love something about each other (face, legs, butt) because of how beautiful, or physically attractive that part of them is. At the same time, a father and son would not be attracted physically (in most instances) and might not say that the other is beautiful-looking, but they could still love an intangible part of the other (how they make them proud, how they respect them) in the same manner as the two lovers love the physical parts of each other. In both instances, love and beauty coexist, albeit in very different ways (and the same can be said for non-human things: music, painting, cars, etc.).

different than love, in that beauty can stand alone while love cannot. In other words, love is a subset of beauty. I believe that in order to define beauty, we must first separate it from the narrower viewpoint as an “object of longing” or as I’m calling it: love as described by Crispin Sartwell in the first chapter of his book, *Six Names of Beauty*. This interpretation incorrectly assumes too much in that love and beauty are inseparable. It does not account for the fact that beautiful things do not need to be loved in order for their beauty to exist. For example:

An adolescent male observer looks at a Playboy magazine for the first time and can't resist the allure of Miss December in all of her festive holiday charm. He takes in her curves and the soft, warm light bouncing off of her breasts. He can feel the command of her eyes take hold of him and turn his mind and body into a cornucopia of libidinal urges; his will attempts to wrestle against their power with little success. He reaches towards the page as if to feel the peach-like texture of her supple olive skin together with the smooth silk ribbon wrapped around her waist and thighs. He can recognize the perfume on her neck as Calvin Klein. He can taste the sweet nectar of her loins: delicious in its subtle 'muted'-ness yet unforgettable in its lingering subliminal splendor.

This image of a nude young woman obviously creates quite an impression on the boy as his senses become overwhelmed by her beauty. Her features make an immediate impact on him to the point where his other senses and processes are triggered (olfactory, tactile, salvitory) as if by some involuntary sexual Pavlovian response. But are these things the result of his desire, or love, of the “beautiful” woman? What if the woman were really in front of him, perhaps performing oral sex on the boy? Would his feelings

of beauty cease because his desires were fulfilled? Certainly not! I would even go as far as to assume that the boy would find her exponentially more beautiful. So we cannot just say that beauty is just the “object of longing.” But then what else could beauty be?

Beauty's End Justified by its Means

Another beautiful thing that has an immediately intoxicating effect on par with Miss December is *Autumn Rhythm* (c. 1950), a painting by the abstract expressionist Jackson Pollock. People have written pages and pages on the power of a Pollock drip painting and how it immediately affected their notions of beauty and art. Filmmakers have felt it necessary to document²⁰ the genius of his technique, and the process by which his beautiful canvases are born. Sartwell says that, “In craft²¹, means and ends become intertwined so that the process itself by which the crafted object is made is experienced as an end: the process itself is beautiful, like a dance.” However, in order to create a beautiful work of art, one does not *need* the paintbrush, easel, application of paint, or any of the tools or processes involved in the creation to be beautiful themselves. All those things simply need to be effective in performing their allocated function to the specifications of the artist. In other words, just because an

²⁰ *Jackson Pollock*. Dir. Kim Evans. Perf. Jackson Pollock, Lee Krasner, Elaine de Kooning, Elizabeth Pollock. 1987.

²¹ Although Sartwell uses the term “craft” and not “art,” I believe that they are one and the same to him. In *Six Names of Beauty*, Sartwell illustrates a scene of his step-father building a set of cabinets, and he uses language suggesting a comparison between craft to art: “I was struck by the way [his step-father] held and applied a hammer and the other simplest hand tools. He had great precision... his weathered hand directing the tool with a concentration that merged eye, hand, and tool into a single system” (Sartwell 2004, 7). Craft is traditionally something that is below art, but the way Sartwell describes it leads me to believe that he finds them equal.

object is beautiful does not guarantee that any particular aspect of its creation was, in itself, also beautiful²².

This is not to say that I am refuting the possibility of the tools, methods, or both used to create a beautiful work to be absolutely beautiful in and of themselves. Pollock's dance in creating his grand masterpieces is certainly a thing of beauty in and of itself. My point is that although both the method and the resulting painting are beautiful, their beauty lies in and only in themselves and not with their relationship to each other. Pollock's paintings are separate from the performances that create them: the theatrical application of paint and the artist's interaction with the picture plane, his dance, and his crushed cigarette butts littering the canvas. It is this seemingly haphazard method whose sum, calculated and experienced, is what makes the process beautiful and not necessarily the end result. He could have, hypothetically speaking (although Pollock would probably turn in his grave at the sheer thought of it), meticulous painted every individual line and splatter with strict precision and applied the various pigments by means of paint-covered brush to canvas contact with the same end result. In that case I think the end result, even if it were stripped of its dramatic method, could and would still stir the same feelings of beauty of the original.

In terms of the end result, the painting itself derives its beauty from the feeling we get as the viewer; when our field of vision is totally engulfed in the vast woven connections of

²² Example: Andy Warhol's prints of famous icons such as in *Marilyn Diptych 1962*). Marilyn Monroe might have been the most famous bombshell of the twentieth-century and Warhol's depiction might be the most famous of her many portraits, but Warhol's method – like the artist himself – was detached and lacked any kind of feeling and was certainly not beautiful, or at least as beautiful as Pollock's technique. Yet, while both methods are clearly on different levels of beauty, both their means are still incredibly beautiful.

spattered color and not the knowledge of how the artist created it. Most of the time we are unable to question the artist and left only to see the result and to determine our own feelings based on what is before us on the wall, or page through its own visual experience. The paint and canvas become something entirely different than just the manifestation of Pollock's hard work. He might have been listening to Mozart while he was painting, but to me the end result becomes a rendition of *Swan Lake* in all its majesty and grace, captured in some simultaneously static and dynamic state where the dancers stay forever young²³ and perform their ballet day and night. An overpowering and almost hallucinatory bombardment of our visual and tangible senses in Pollock's work is what makes them so beautiful, not the means by which this phenomenon is achieved (albeit separate and coincidental, the means are also very beautiful).

The Beauty of Utilitarian Non-Art

While a great many things can be said about Pollock's work, beauty is not limited to things which are intended to be beautiful (as in art). For example, a tire-iron is useful, strong, metal, cross-shaped, rusted, etc., but I do not know anyone when candidly asked to name two beautiful things, would mention a tire-iron in the same breath as *Autumn Rhythm*. But why is this so? The first reason that comes to my mind is the fact that the tire-iron is an object with a specific task to handle, and it owes its entire existence entirely to its effectiveness at completing that task; its utilitarian-*ness* dictates its worth, and

²³ Although, interestingly enough, many of Pollock's drip paintings are in a state of decay because of the type of paint he used... coincidence? Maybe, but then again, maybe not. In terms of which vehicle for beauty – the means or the end, the *act* of painting or the *act-ual* painting – is *more* beautiful, perhaps Pollock's answer lies in which one will outlast the other.

not its aesthetic value. Unlike *Autumn Rhythm*, a tire-iron has no conventional purpose in the art world, because, in all likelihood, whoever invented the tire-iron did not consider themselves to be an artist of any kind and, thus, had no intention to create the tire-iron as a work of art. Someone made the tire-iron to do one thing and one thing only and that was to aid in the process of separating and combining tire and car, not to be hung in a gallery, gawked at, or studied.

The same title of “non-art” can be applied to most other utilitarian objects and tools. In Sartwell’s book on beauty, he correctly identifies that “beauty as suitedness to use is wrong” (Sartwell 1958, 7). That is, in order to *define* beauty, we cannot rely at all on the object’s utilitarian value. He goes on, however, to make a connection between an object’s function and the definite beauty in its ability to “bring our desires to fruition.” He believes that a “[beautiful] tool both expresses a desire and leads toward its satisfaction” (Sartwell 2004, 8). But then what happens to the object’s beauty after it has fulfilled its purpose²⁴? If a tire-iron is beautiful because it was successful in taking a lug nut off of a tire when I was longing to put a spare on my car so I could get to a date on time, then, according to Sartwell, after the deed was done the tire-iron would lose its beauty; it will have essentially exhausted its supply of expressive qualities. But if the object in question is being judged according to appearance, and looks the same before, during, and after its use, then its beauty must remain constant with its form; beauty does not cycle through a repetition of buildup and release (as desire does).

In addition to my belief that it is wrong to use love to define beauty, describing a tool’s beauty in terms of its ability to help us realize our longing desires is just as incorrect.

²⁴ This goes back to my previous point about the boys desires being fulfilled by Miss December.

Rather than to claim tools are beautiful because they hold some kind of power in their use, I believe it is better to say that these types of tools are “necessary²⁵” or “effective²⁶” in their use or design. What a beautiful tool shares with *Autumn Rhythm*, and Pollock’s dance, and even the photo of the naked woman, is the judging of its inherent beauty as a result of our experience with it. We cannot find the beauty in a tire-iron unless we really look at the tire-iron, take it in through an experience that eliminates its intended purpose and portrays it as an object capable of aesthetic appreciation. Imagine this:

You’re walking along a wooded path and spot something glinting in the distance. It looks shiny and oh! so appealing. You run until the object is at your feet and then reach down and grab it. A firm tug and you rip it from the soil and hold it up to your face. It’s a metal object; smooth to the touch with two long shafts, each about two feet in length and made from strong, solid, stainless steel fused together at the exact centers to form a perpendicular angle. You run your finger along one of the shafts to better feel how flawless and perfect²⁷ the surface is. At the end of each pole there is a

²⁵ Alluding to the difficulty the task would pose without the use of the tool.

²⁶ Alluding to the ability of a specific tool to perform the given task as judged against the ability of a similar type of tool’s “effective”-ness to complete the same objective.

²⁷ I do not believe that an object needs to be perfect in order to be beautiful. A flower, for example, needn’t be perfectly symmetrical in order to be beautiful (Bearn 2005, 3). In fact, the beauty of the natural world, I believe, in its asymmetry and flaws. Even if a tree *could* grow to be perfectly symmetrical, it could never be as beautiful as a real tree – with all of its twists and forks. Trees derive their beauty from the feelings we get examining their branches, climbing on its limbs, putting our hand in the mysterious hole in hopes to find something incredible; every shoot off of the main trunk is like an adventure. Every tree is different and exudes different feelings: some are proud and tall while others are bent and humble like an old woman pushing a shopping cart. We experience the beauty of nature through its inexact, asymmetrical, unbalanced features. But, on the

hole inside, all of them hexagons. You fit your index finger in the first hole and it fits like a glove; all six flat sides surround you like six sturdy walls and your finger feels safe. You grab one of the shafts near the end and hold it up so that the metal can reflect some of the few rays of light that make it through the canopy of the forest. It looks marvelous. You wave it around in the air and can feel the power in its weight. You smile, and can't take your eyes away from it.

This situation illustrates the beauty of the object through an experience that takes it beyond its ability to bring to fruition our utilitarian desires. A person had this same kind of experience when they saw Marcel Duchamp put a bicycle wheel upside-down on top of a stool in an art gallery along with other, more antiqued and traditional works. Both bicycle wheel and stool cease to function as such, and thus their meanings are changed as they become objects capable of being beautiful. The tire-iron is now beautiful because we have shown the beauty in the way the light hits it, its texture, its weight, the shape and form of it. The senses drive the force behind the experience, which is the real definition of beauty.

Making Sense of the Senseless

We cannot limit ourselves in our attempt to define beauty by the associations we make between things that are related or have a defined place in the real world (the desire we feel from looking at pornography, the pleasure of using an effective saw, the means justifying the ends). We must think about utilitarian objects like the tire-iron as if they never had a function in the first place other than to exist: as if they could be found growing on a tree branch in a park. We must put into

contrary, many man-made utilitarian objects hold some facet of their beauty in perfection.

practice a lesson learned from the readymade sculptures of Marcel Duchamp (i.e. *Bicycle Wheel*, 1913, or *Fountain*, 1917) and take those everyday notions of function, purpose, fine art, love, desire, and throw them out the metaphysical window. We need to clear our heads and start from scratch, to abandon those preconceived notions. We must ask ourselves what it is something really does for us, to us that make it beautiful

Furthermore beauty, as the old saying goes, is in the eye of the beholder; a personal realization coupled with individual preference, bias, etc. Therefore it is impossible to predict beauty, or to make something that every human being finds beautiful. But the common link that all things share, when we consider beauty for beauty's sake, is that something we consider to be beautiful does *something* to us. Something beautiful has a way of transcending its inherent significance and becoming something more than itself. Beauty is perpetual and can come from anywhere. Beauty does not need beautiful parents to be beautiful. But most importantly, what is the culmination of what "Beauty is..." and "Beauty does..." is that beauty is the marriage of spiritual and sensational experience.

What beauty does for us (the *something* alluded to earlier) is establish a link between the physical world and the concept of faith; a way of understanding, by using the tools of our bodies we normally use to examine the world that surrounds us, the mysteries of the universe that science and logic has labeled *enigmatic*. Beauty resists a concrete definition because it *is* a definition. It is what allows us to make sense of more difficult concepts like God, love, life, death. Beauty is our sixth sense, but the only sense that is able to make sense of the other parts of the world that are, well, a bit more senseless/irrational than the rest.

Murawinski

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Philosophy: An Undisciplined Discipline

B. W. Dunst

Preamble/Abstract

As a basis or entry point into contemplative thought the ethical gaze provides no grounds for definitive determination of feelings. That is, ethics does not, cannot, and will not work toward the implicit goal of *ataraxia*. It is not that I have ill will towards ethicists; on the contrary, the ethicist is engaged in one of the activities that I hold in high regard; at least in an abstract sense. The ethicist looks to find how to go about answering the question of “how ‘should’ we go about living?” he does this by examining into reasons for, and reasons against; desires for and against etc. The ethicist is looking to find answers because his question is formulated directly (How should we be? What should I do?). With such pointed questions (and we will see that these questions are, strictly speaking, no more pointed than any other question that could be posed) it is of no surprise that there are answers sought—there is some sort of end-goal to an ethicist’s inquiries. An ethicist would likely refute this by citing that he *knows* that there are no *answers*, and give some account or reason for continuing his pursuit. The ethicist *is* a philosopher after all, and as such, he does not content himself with unfinished thoughts, unconcluded conclusions. The philosopher, as well as the ethicist, takes it as his duty (in some sense or another) to fully develop an accurate account of something—to feel and describe Truth intimately. It is in this way, and probably only

in this way that the philosopher is like the scientist. Both the philosopher and scientist are up against what they know to be an unending task. Metaphorically speaking, each shovel-full of dirt reveals that there is more dirt they could have dug—that they'd made progress in the act of digging, but that the result is always the same: more dirt, the task unfinished. And in knowing that the task is, in its nature, unsatisfiable he clutches at some sort of ground, or thinks he's grasped something to hold on to—something immovable (at least in some relativistic frame of reference). It is said that the gravitational orbit of the moon is the same as the moon always falling inward toward the earth, angularly with respect to the earth's center of mass. Philosophically we're all falling whether we feel like we're standing on solid ground or not. Our situation is actually quite a bit more dire: we're falling in all 'directions' at once, while paradoxically never in a fixed 'position'. So what makes the philosopher or ethicist or scientist continue in his pursuits? Is it the feeling that we are making some progress? A base sense that we're drawing a line and it's got to be a line of *something*? But to make progress one has to have a goal toward which one is to progress; to pose a question is to suppose a solution. The ethicist and the scientist pose their questions, automatically supposing solutions. They recognize that each solution is another formulation of question, and keep digging. They know they've got a paradox on their hands; the ethicist or scientist must keep digging but knows he'll be met with more dirt. He knows the nature of the act is incompatible with the actualization of the act. The philosopher wants to pose a question without supposing a solution, and he can never get away with it. The ethicist wants to pose a question (which supposes a solution), and work toward that hitherto undetermined solution. My claim is that he can and will never

have the possibility of claiming accomplishment in this endeavor. The scientist feels the pressure of a question posed, and the magnitude of seeking its solution—never seeing the end, but feeling progress. So it is in this way, and most likely in this way alone the philosopher and the ethicist share similarity with the scientist.

Now, I implied that I am specifically uninterested in ethics; which may have been misleading. I am certainly interested in meta-ethics or more generally any meta-discussion. I find that discussion of that which is ‘unspeakable’ in the Wittgenstinean sense is where most potential for interesting conversation lies. I’d like to investigate further what it is to make ‘sense’ and how this relates linguistically to such notions as ‘context’ and ‘meaning’. In doing this I intend to examine or discuss what a richer understanding of these concepts entails ethically—that is, I’d like to dig a little deeper into this philosophical hole, then take a step back and describe what I see, and perhaps compare this with what some other philosophers have remarked upon seeing.

Which came first: Language or Thought?

Let us begin with the claim that “It really does all begin with language”. I’ll not commit myself to that claim just yet, but it is at least a point of access—a way to get us to the hole so that we may think to dig. I’d like at first to approach the iterative ‘problem of philosophy’ (as I’d like to call it without necessarily hearkening to Russell’s perennial work) by looking at a presumed essence of language. Not having access to the exact way in which language has developed, it is particularly difficult to be able to describe precisely the interplay between what might be called thought or idea, and language or communication. There are a couple basic (perhaps

incompatible?) theories that tend to occupy the bulk of the literature on this topic.

One such theory is that thoughts and ideas come first; that we have the abstract apprehension of something in a most basic form, and language is a tool by which we attempt to express that abstract apprehension. This theory presumes a couple premises which would be worthy of note: first that there is *something*, albeit abstract, that is apprehended. This means that on this theory there must exist some sort of discrete abstract entity—the apprehension. The apprehension has boundaries, or we would not be able to talk about *it*. It may be that this is not the case at all; perhaps ‘the apprehension’ is inaccurately linguistically expressed; perhaps we have made a mistake by discussing *it* because there really is no *it*—no abstract entity or apprehension of which to discuss. This is a splendid instance of what I call ‘*paradoxa*’ which will be discussed later in this article. In any case, if we are to talk about abstract apprehension, then within this theory the language itself is at the very least committed to an inaccuracy or paradox, and at best committed to abstract apprehensive entites.

Another theory is that language comes first; that there is no abstract apprehension, at least not in the same sense as the first theory. This is to say that there *may be* some abstract apprehensive entity, but that it is directly and completely dependant upon language with no sub-linguistic essence. On this theory language is much more than merely a tool, it is the means by which human thought is conducted; it is both the tool and the function that the tool carries out. As with the first theory, this one also presumes premises worth noting: for instance, if language is the penultimate essence of both human thought and expression, then how do we explain when language seems to ‘get it wrong’ on occasion (i.e. paradox, the

ability to be wrong about one's self, imprecision, the ability to lie, the possibility of metaphor or pun, etc)? This theory presumes that there are answers to that question.

Now suppose that neither 'thought' nor 'language' was greater. Then it reasons that both thought and language must be considered equivalent in whichever sense that 'greatness' was previously determined (by uniqueness). This theory could be formulated in a multitude of ways, perhaps such that thought and language interplay in some complex way that may not be apprehensible. Or perhaps the concepts 'thought' and 'language' are not fully developed—perhaps these concepts are one and the same, or unable to be developed further. Perhaps...there are too many degrees of freedom, and we're left with only conjecture and hearsay. If we are to ever make any progress in understanding how to grasp these notions of 'thought' (or idea) and it's connection with language (whatever it may be) we must first manage to gain a grip on this iterative problem of philosophy.

The Iterative Problem of Philosophy

The iterative 'problem of philosophy' to which I have previously referred is of particular poignancy and must be considered as often as possible in the realm of philosophical endeavor. When I said that I felt an affinity towards the activities in which an ethicist engages I meant it with respect to this problem. The problem simply stated, is that all attempts to make philosophical progress are condemned to suffering the fate of incoherence or intractability. It seems clear that in order to 'make progress' (a term that smacks wonderfully of scientism) we have to be completely rigorous about our methods. The scientific method is to control variables, hypothesize, experiment, record data, give results, and draw conclusions. If at any point there is deviance from

this method, the conclusion is said to be drawn without rigor. This is the austere methodology of ‘making progress’. Without rigor, it is clear to see that we must be ever-cautious of the validity of claims. If our claims are unsafe from scrutinizing their validity, then surely they are unsafe claims to be making. It is, however, important to note that nothing has been said about truth. The unsafe, unjustified, invalid, non-rigorous claim may still simply be true; and likewise the safe, justified, valid, rigorous claim may still simply be false (and probabilistic study would suggest that it most likely is—at least to some degree). This is not our current qualm. What we’re concerned with is the yet-to-be-explicated ‘iterative problem of philosophy’ which I’ve suggested has something to do with rigorousness. Philosophers, ethicists, and scientists alike recognize that progress cannot be made without rigor—that if we want to make progress we must have rigorous methods. Thus, insofar as progress is our goal, then the way to go about securing progress is via methodological rigor. But what does it mean to set progress as a goal or to secure progress? To make progress is to draw a line in the sand. History, memory, the past, etc. give the secant points to show the shape of the line, but progress is not concerned with the shape; progress *shapes* as an active verb in the present tense. Progress cannot be a noun; and thus cannot be a goal. To progress is to progress *toward something*, just as to pose a question is to suppose an answer, as to identify a problem is to conceive of a solution—without one there cannot be the other; a conceptual unity of multiples, a filled Body Without Organs. It is here that we can see how philosophy (or its scientific cousin) faces an iterative problem. Each time we wish to investigate a philosophical problem, a problem or hypothesis must be formulated in order to be methodologically rigorous. But this is exactly the issue: problems suppose solutions;

hypotheses are falsifiable, resolvable, and eventually resolved. A solution implies in one sense an ending, the end to a problem; but in another sense a solution implies iteration, yielding new problem(s) in its wake. The machine has two options: to terminate at paradox or to iterate endlessly. The meta-philosopher or meta-scientist recognizes that 'sense' dictates that this rigorous, methodological progress must transgress in this fashion—either discovery and progress will continue endlessly, or eventually cease to make any sense. Paradox, or infinity—this is the iterative problem of philosophy.

Paradoxa

It seems like this would be a good place to discuss this idea of *paradoxa*. Looking directly at the greek, the prefix *para* means 'along' or 'beside'. Additionally, *doxa* refers to belief, opinion, or ontology. Together, then, we have the concept of something which is alongside, outside, or proximally situated (but not within) a structure of belief. The way in which I would like to use *paradoxa* is to match it closely to the colloquial usage of the word 'paradox'. This is very much like the way Deleuze discusses 'paradox' in *The Logic of Sense*. That is, I intend *paradoxa* to mean something not entirely dissimilar to "outside sense"; sense referring to a semiologico-ontological structure, outside being the conceptual situation of *paradoxa* with respect to sense. More accurately, I would like *paradoxa* to encapsulate sense—its negation in a larger meta-domain. Thus, *paradoxa* in following with the colloquial usage of 'paradox' is simply nonsense.

As with many issues it is presumably not that easy. To be rigorous, we should try to say a thing or two about exactly what we mean by 'sense'. Here there are multiple variant viewpoints, as was the case with the interplay between

language and thought. Some philosophers (such as Frege) differentiate between *sense* and *reference*. This distinction gets complicated on Frege's view, but the basic idea is that there are intrinsic and extrinsic factors in determining the 'meaning' of a linguistic term. The extrinsic factors are the *reference* of the term—those parts of a term which determine truth-functional meaning. A term derives meaning extrinsically by *verifying* it within a semiological structure. Alternatively, the intrinsic factors are the *sense* of the term—those parts of a term which give more than just verifiable truth-functional meaning but rather fit or map into the semiologico-ontological structure without invoking verification within the semilogical structure. *Phosphorus* and *Hesperus* both refer to Venus—they have the same referential meaning. To one ignorant of this common referent, their referential meaning still holds—both linguistic terms point to the same object (namely Venus). They mean the same thing extrinsically. Intrinsically they mean something quite different; particularly that *Phosphorus* means the 'Morning Star', and *Hesperus* means the 'Evening Star'. They both refer to Venus, but there is some *sense* to be made out of an apparent difference. It then seems reasonable to say that *reference* is the semiological structure to which *sense* plays the *paradoxastic* role as 'beside' or 'outside' or 'not-pertaining-to' reference within the meta-domain *meaning*.

Others, such as proponents for the Verificationist theory of meaning, restrict the semantical notion of meaning to that which is truth-functionally verifiable within a semiotic structure. On this theory, meaning is simply what we meant by 'reference' in the previous theory; all other 'sense' for which to account is thought of as essentially pragmatic—a function of usage and not related to a term's meaning. *Phosphorus* and *Hesperus* mean the same thing, and that there is more to be said about the astronomical essence and linguistic

difference between the two simply amounts to colloquial understanding and usage of the two relative linguistic terms. Here the potential *paradoxastic* relationship is between semantics and pragmatics. Semantics is the structurization of meaning to which pragmatics plays the *paradoxastic* role as 'beside' or 'outside' or 'not-pertaining-to' semantics within the meta-domain *language*. Here there is no non-linguistic possibility for meaning, so *paradoxa* would have to assume some role within a seemingly more restrictive domain of language (parenthetically speaking, it is most likely of interest to investigate the possible relationship between the cardinalities of the domains of language and thought; but as intriguing as that idea is, it is not within the scope of the domain of this paper).

I had set out to give an account of what comprises *paradoxa*, or how *paradoxa* should be construed without explicitly subscribing to a particular theory of sense or meaning. Oftentimes in philosophy terms tend to only have meaning or make coherent sense within a particular ontological structure (this alludes to the 'problem of context' a topic central to, and discussed later in this paper). Suffice it at this juncture to acknowledge that we must bear in mind to which contexts our terms seem most apt to align sensibly. Recall that our purpose in explicating *paradoxa* was to gain a richer understanding of the 'interplay between language and thought'; more specifically our efforts were to gain comprehension of what is meant when we refer to *concepts*.

Concepts & Quanta

Let us begin with the idea of *quanta*, and how it applies to concepts. In physics, quanta are the minimum discrete 'packets' of electromagnetic energy transmitted in a quantum event. We'll take this to be the colloquial usage of quanta. In

a more generalized sense, I'd like to use the notion of quanta as any sort of minimal discrete packaging for transmission.

When we discuss thoughts, ideas, language, intent, usage, and expression, it becomes exceedingly difficult to express a point without invoking the notion of 'concept'. Typically, we differentiate between concepts and objects. Frege made this 'sharp distinction' one of his three guiding principles in understanding language and meaning.

As yet another entry point let us begin with an idea, let's say of a particular smooth, red ball—"that smooth red ball on the table" (gesturing toward the table and in particular the smooth red ball that rests atop). We feel as though there is nothing that can dispute the 'fact' that "I see that particular smooth red ball". But we seem to be able to look even more elementarily than that. It is not necessarily a ball, or a red thing, or a smooth thing, or a thing on a table, etc that we see...but it is a thing; an object, in its simplest sense devoid of all attributes. To some, this seems ludicrous—I cannot *conceive* of this ball without all the attributes of *that particular ball*. What we've tried to do in isolating the simplest (Platonic) Form of the ball, is to abstract away all the attributes of the ball as an effort toward pure objectivity. We have really only done this in an abstract sense—at no point were we ever actually imagining *that ball* without its attributes. When we undertake this task of abstracting away an object's attributes, we're proposing a particular worldview. We're saying what's most basic is object, in one sense. Secondary to object is conceptual attribute, and tertiary is retrospection. Objects then are pure, undifferentiated, existence—a superficial Body Without Organs—Platonic Being—pantheism, *en brute*. Having differentiated sharply between the conceptual attributes of the ball, and the objective ball itself, we now attempt to relocate the ball's identity. We have to do this to recover our subject

(the ball) because we lost all of its distinctions when we abstracted away all attributes. We have an object, undifferentiated, and thus we have only simple *existence*; but we *want* a smooth, round, red ball resting atop *that* table. So we start applying conceptual attributes, we include all things that belong to the intersection of the following sets: smooth things, round things, red things, things on that table, things in that spacio-temporal location, etc. The *quantum-concept* of the ball is the minimized abovementioned intersection of sets. It is a set with a minimum number of elements such that the specific ball in question is *completely described*. So, if we can obtain this *quantum-concept*, we can proceed to make progress in making sense of all those thoughts, ideas, languages, intentions, usages, and expressions that were so important to a rigorous understanding of language.

Unfortunately this *quantum-concept* proves much more elusive than it seems. For instance, consider the question of how we are to find exactly the right set of conceptual attributes to comprise the quanta. Do we limit the set to specifically those attributes which are public apprehensions? How do we differentiate between which apprehensions might be public and which are private, given that each person has only his/her own judgment criteria? It seems as though we're certainly able to talk about concepts, and apply them sufficiently to function adequately in a linguistic activity; i.e. we all know the reference when I gesture toward the table and say "that smooth, round, red ball resting atop the table over there" so there appears to be a way (at the very least) to 'short-circuit' conceptual reference in order to converse.

Often at this juncture an account of 'competent speakers' of a language is cited as a possible explanation into why it is that this 'short-circuit' seems to work. The basic idea is that there is a way to judge whether a speaker is competent in a

language. Once a speaker is judged as 'competent' in that language he/she may then be assumed to have understood another competent speaker's utterance (and vice versa). Oddly the commonly induced judgment procedure involves assuming the exact phenomenon we set out to explain. 'Competent speakers' are determined as such by looking at whether that speaker's utterances appear to be understood by others, and whether that speaker appears to understand other seemingly competent speakers' utterances. An appeal to intuition that begs the question is hardly a rigorous explanation for this phenomenon. So how are we to account for the apparent success of communication through language—for this short-cut in attaining a quantum concept, and transmitting it in a generally successful way?

One potential answer is that we've gone about things all wrong from the start. We should not have made this distinctive concept-object abstraction in the first place. Now that we've openly rejected one of Frege's fundamental principles (to never lose sight of the distinction between concept and object.) we should question why this distinction was so important to Frege? What price must we now pay? The simple answer is 'none', and this stems from incoherence in Frege's viewpoint. Frege asserted three principles: (i) always separate sharply the psychological from the logical, the subjective from the objective; (ii) never ask for the meaning of a word in isolation, but only in the context of a proposition; and (iii) never lose sight of the distinction between concept and object. Unfortunately for Frege, it seems that his principles are internally inconsistent. If we are to keep the distinction between concept and object, then we must be rigorous about it. Objects in Frege's formulation, are *names* (or 'signs'). This is not strictly true, as objects are *objects* and names are an abstract linguistic subset of objects. What Frege

meant is that objects are always designated in language by names or signs. But to keep the distinction between concepts and objects we must *actually keep it*—that is, when Frege says that objects are names, he's already broken with this principle. More explicitly, by being able to say anything about objects at all (namely that they're 'names') we've already inadvertently snuck a conceptual attribute into the essence of object. In restricting objects to the purely undifferentiated as we had with the 'red ball' example we upheld the principle to the letter; something Frege never did. His project was oriented conversely to ours: he wanted to isolate concept from object, not object from concept. He assumed thought is greater than language (in keeping with principle (i))—again, this is where I'd like to suspend judgment.

Having done away with the distinction between concept and object what we're left with then seems to be 'that specific smooth, round, red ball sitting atop that table'. Each and every 'thing' is unique and differentiated from every other in its attributes. The 'thing' and the 'attributes' are identical; we cannot look to one or the other to say what we're talking about. Then the problem arises: *this is not at all how language works*. When I say "that smooth, round, red, ball" I've differentiated. I've got a name (ball) and some adjectives (smooth, round, red); it's not a completely divisive distinction between concept and object, but a distinction nonetheless to some degree. Thus, in order for language to function without necessitating a *complete quantum conceptualization* on this view we must account for degrees of distinction in concept and object. This might be intrinsic to a psychologistic account of human rationality. That is, it may simply be a function of human cognition for us to be able to pick up on the varying degrees of distinction in concept and object within the context of conversation, or any other linguistic activity. Though I feel

like this explanation is of sub par caliber, it is a reasonable one, which would then be left to cognitive scientists to address adequately.

It might also be that computing a complete quantum conceptualization is something that we can, and do carry out without ever being aware of doing so. If this is the case, then we need not worry about the potential elusiveness of apprehending concept. It simply happens. However, there seems to be something about the process of quantum conceptualization which categorically precludes it from ever attaining *complete concept*. A concept in its entirety requires that it is completely determined. In order to completely determine such a thing as a concept (say, of a particular ball) the minimum required intersection of conceptually descriptive sets is still at best of countably infinite cardinality. This is an assertion and an appeal to intuition (hardly rigorous) but also seems undeniable. Categorically speaking, I can conceive of no circumstance whereby I am unable to confuse a finite intersection of conceptually descriptive sets—and thus I am unable to isolate with certainty a complete concept.

Take once again the red ball, for example. Say a proponent for the abovementioned conjecture wanted to prove to me that the intersective set is of finite order by describing all the attributes required to completely apprehend the concept of the ball. He might even concede that it would take him an unreasonable amount of time to complete this task, but that he could finish in finite time. So he starts describing the ball, in all possible ways, covering *all possible* attributes of the ball; after all, if the set is finite, than adding one to the set is also finite, and adding two to the set is also finite...*ad infinitum* (note the paradox). It seems now that he should not over-describe the set—for we need a way of choosing whether an attribute attains and if we over-describe the set there is no

longer any way to go about counting; so let's restrict him to only the necessary elements which will completely describe the concept of the ball. Well, now the problem is in how to decide which elements will accomplish this task. Presumably there will be different ways to completely describe the concept. For instance, one conceivable way might be to give the exact complete physical description of all the states of the atoms which comprise the ball, in conjunction with a precise spacio-temporal description of the ball. Another way might be to give the complete physical description of all the states of the atoms which do *not* comprise the ball, in conjunction with the precise spacio-temporal description of the ball. It would seem like the former set is 'smaller' than the latter, but in practice, the only way to tell is by actually counting all the elements of both sets, and comparing their respective cardinalities. In either case, we presumably have variant complete descriptions—multiple ways of arriving at a complete concept of the ball. If one or another of the set of potential complete descriptions is of finite order, then our proponent is successful. But the problem remains; when he begins describing, how does he know preeminently that he's got a 'correct', finite set of descriptions—a complete, finite descriptive set? In order to prove that the set is finite, we must already assume tractability. In order to apprehend a complete concept, we must already have the complete concept. This conjecture begs the question; its proponent's methods are incapable of being rigorous.

It seems that we're epistemologically mired. We're stuck not-knowing whether the descriptive sets are finite or infinite. If the sets are finite, we're still unsure about how to go about listing all the required elements. If the sets are infinite, we never quite make it to the actual apprehension of a complete concept. In either case, it seems doubtful that we ever do

apprehend complete concepts; that there is something less-rigorous than this lofty project working in linguistic interaction. A short-circuit—but of what? The goal of a ‘complete concept’ appears now as a specter; it is as if we’ve been chasing ghosts attempting to short-circuit something that is not there. We must then abandon the notion of a ‘complete concept’ once and for all. But this erasure does not come without consequence.

I stated at the beginning of this section that *paradoxa* is necessarily a byproduct of quantized concepts. It should now be easy for us to see why. If we wanted the quantization of concepts to be the system by which language effectively communicates, the logical conclusion (as demonstrated) cannot be sensible; instead the understanding (excuse the loose usage of the term) can only be reached outside sense as it were—paradoxically. This suggests that our apparent ability to apprehend concepts occurs outside logical argumentative structure. Therefore it becomes unreasonable to attempt to sensibly justify this understanding.

The Abstract Uncertainty Principle

Let us suppose for the sake of thoroughness that we are unable to speak of concepts. We may think we can speak of concepts, in fact, it seems as though we are currently engaged in such an activity. But we can also speak of a four-sided triangle without being able to conceptualize it. The idea I propose is that speaking of concepts, or supposing their existence in any sense is paradoxical. We may only discuss ‘concept’ superficially; as depth is only a hallucination. This is not to say that nothing is gained from talk of concepts; nor is it to suggest that doing so inaccurately represents the world. I mean neither to suggest the inverse: that discussion of concepts is safe from fallibility. All I suggest is that we should

consider the possibility that concepts do not exist. Paradoxically, to discuss that concepts do not exist, I must suppose that concepts exist. Such is the problem of logical negation: in order to identify what does not exist, we must always have the possibility for its existence. If a purple elephant with green polka-dots does not exist, then I must be able to identify exactly what it is that is not there...but if it is not there, however am I to go about identifying...what? The beauty of incomprehensibility (paradoxicality) is that we needn't worry about 'making sense', and since we've already boxed 'concept' out of the realm of sense, we are unable to have a problem.

What then, might happen if we try to remove this idea of concept from our philosophico-linguistic lexicon? Why not replace [it] with another idea stolen from theoretical physics: Heisenberg's Uncertainty Principle?—altered slightly to fit our colloquial purposes. Our principle (which you may've already guessed will be called the *abstract uncertainty principle*) mirrors Heisenberg's, but only in the motivated gloss of a philosopher. The basic Heisenberg's Uncertainty Principle shows that it is impossible by experiment to determine simultaneously the momentum and position of a subatomic particle. The important result is Quantum Theory; the idea that our best functional model of subatomic particle physics is probabilistic. If we want an accurate and precise model, we must do something counterintuitive; we must use a model which we know to be false. The result is that all resultant reasoning is restricted from logical deduction—a systematic exclusion from the semiologico-ontological structure of language/thought. Similarly, the *abstract uncertainty principle* takes the same stance on [concepts] (in brackets here and on because we've deleted 'concept from our philosophico-linguistic lexicon) as Heisenberg's principle does on particle physics: each time we

would like to invoke the notion of a particular [concept] we extend a linguistic indexical pointer at it to pin it in its location. We need to do this in order to know exactly what it is to which we are referring. But when the pointer gets to the probabilistic vicinity of the [concept] we find that it either misses the target, or in hitting the target simultaneously displaces the [concept]. Either way we've got false coordinates. As with Quantum Theory, we might then take a pragmatic approach and do something counterintuitive in order to rescue our efforts. If we want to salvage an intuitive understanding of how language works we might reformulate how we think of [concepts] to a quantum-like model which bears no resemblance to reality. This model gives conceptual meaning in probabilistic 'clouds'. Each time we feel we've understood a linguistic utterance, what we've really done is a qualitative probability calculation yielding a suggested potential understanding. When we *know* what we're talking about we've got a *strongly* suggested potential understanding.

Inventory (Interlude to Contextuality)

Let us now pause to recapitulate. We've found though our investigation of the notion of concept that it is either exiled to the realm of paradoxa, or that we must remove it from our lexicon, replacing it with an unrealistic quantum-like model. Both ideas have their pros and cons, and either idea appeals to proponents of different linguistic theories. Recall, my goal is to investigate what it is to make 'sense' and how this relates linguistically to such notions as 'context' and 'meaning'. We have hitherto addressed meaning and sense and their relation to each other linguistically. What remains to be discussed of this goal, then, is how the notion of context relates linguistically to the logically structural idea of sense. Let us

now reset our focus toward context and continue with our investigation.

What Vagueness Lurks in the Contexts of Words...

Context is probably one of the most elusive notions expressed by language. The reasons for this are also particularly elusive, and as such it becomes extremely difficult to even approach a fruitful way of considering the idea of context. The word *context*, in and of itself, often carries what I believe to be a flawed faux-conception which is propagated within the essence of almost every facet of language. It is for this reason that I find it utterly vital that the concept of context be thoroughly investigated. If context is systematically misunderstood, the widespread implications would serve to elucidate (my hope is at least in some meaningful way) a more accurate picture of what we are actually attempting to do when we 'communicate'.

Communication

Let us first begin by contemplating what it is we are actually doing when we say that we are 'communicating'. In the most basic sense what we would like to be doing is transferring perfectly an idea from one ego to another. My language here might seem a little bit opaque; transfer, idea, ego. The understanding of these terms is important, and I would like to express them as accurately as I find possible; though through this examination of the essence of context one goal I hope to accomplish is in showing that what we think we mean by words is never evident, and further that what we think we mean by context is never evident either. Thus my hope for the reader's understanding of terms like 'transfer', 'idea', and 'ego' is really nothing more than the same hope that I am describing for this [unattainably] *perfect*

communication. This is not to say that language, as it were, is utterly hopeless—the true essence, if any, which I wish to express here, is that it is exactly *hope* and *imagination* which saves us from complete despondent isolation. But for the moment we should return to ‘communication’.

The notion of Ego

When I speak or write of ‘ego’ what I mean is “that thing which one believes is one’s self”. When I isolate what makes me *me*, I have then identified what I mean by ego. There are volumes that can (and have) been written about the nature of ‘identity’ (another word which I would like to say as synonymous to what I denote herewith in as ‘ego’) but that is not the focus of this study. For my purpose we shall, for the time being, have to content ourselves with what we *feel* we understand when we read what I have written. Statements like the previous embody the true spirit of my conception of context. Then, when I speak or write about the communication of egos, it assumes that there must be another entity which I have identified as having the same essence as the ‘ego’ which has defined my experience—others identify too.

The notion of Idea

Idea is in many ways similar to the notion of ego. Ideas, however, are particularly elusive on my understanding because they appear to me as having no comprehensible boundary—so in saying the word ‘idea’ or ‘ideas’ there is already a tension. The actual word ‘idea’ seems to designate a discrete packaging of something—that there is a [temporal or conceptual] beginning and end; that there is and can be a difference between this idea and that one. I am not going to deny these conceptualizations of the word ‘idea’ but am rather

more interested in recognizing that these *have the potential* to be inaccurate representations of what we mean to conceive when we conceptualize ‘idea’. If we find that this notion of idea actually misrepresents what we really *mean* to say, then we’ve recognized a failure of speech and of language. The very notion that I *can* accidentally misrepresent my ‘ideas’ potentiates insights into “cracks in our linguistic foundation”. Suffice it to say that when I speak of ‘idea’ I have not put my finger on anything in particular—I am invoking *something* without identifying it. Here my words fail me again, as I can recognize that there is, in fact, *no thing* which can be identified (this is the very purpose of the original expression). Perhaps more accurately though also more misleading I should have said “I am invoking *nothing*”; which raises the question as to whether no-thing is even ‘invokable’. If not, what have I actually accomplished by uttering the phrase? It *feels* like I meant something where there was really nothing for me to have meant at all.

The notion of Transfer

In the same sense as above we must question how we are to consider the meaning of the word ‘transfer’ in a given ‘context’. The picture is of some invisible, indefinite, boundary-less ‘thing’ (which is not anything) traveling (in some way) from one ego (which is also not anything) to another ego (which is by definition fundamentally separated from the first ego). One can easily see that there is much confusion in this simple utterance: “transferring perfectly an idea from one ego to another”. When we read something of this nature we should be flagging it, identifying it for what it is (extremely troublesome and confusing) and stopping ourselves from continuing without understanding fully what we’ve read. What could ‘transferring’ possibly mean in this

context? Nothing, it seems is being transferred, and it seems like there are no places to or from whence the nothing travels. It looks then as if when we say we are communicating that there is actually nothing happening. But then how do we account for this feeling of 'having communicated'? And how does this really connect with an impression of a truer sense of context?

Maybe it would first behoove us to acknowledge that the sense of 'communication' that I had outlined above grossly misrepresents what is actually occurring—that what I've done is exaggerated an ill-conceived model to represent the work of communication. I should admit that was my intention, but had only elucidatory intent. By learning to recognize the somewhat veiled complexities of simple statements, we might better ourselves in our own communication methods. But how? It feels like there is no escaping these types of inaccuracies and confusions in language. How can we hope to improve what appears to be an inherently flawed system? My response is that simply by recognizing and acknowledging the fact of its confounded complexity we have overcome much of the problem of language.

Ostensible Meaning

Words appear to have meaning. The reason for this is that we attribute 'definition' to them, and take definition as being the meaning of words, in lieu of any other sense of meaning. What I am saying here is that, for example, when I use the word "bat" I have taken the word bat to have meaning in some sense. In using a word, its power or force is in that it is being used *for* some purpose—to convey a meaning. It is worth noting that the word "bat" in-and-of itself cannot possibly *mean* anything at all—that is, were I simply to utter "bat" no one would understand what I meant. "Bat" could

just be a vocal noise I produced, or it could be a word—a signifier; but without pre-determining some sort of relational status this signifier cannot do the job of signifying anything at all. Enter the meta-concept of ‘context’. Firstly, I call ‘context’ a “meta-concept” because it applies in instances where we feel that we cannot gain meaning independent of its invocation. An example might then demonstrate context more clearly as follows: I cannot discern the meaning of “bat” isolated from context, but in context it could garner meaning. But what is context? “Bat” can take on many meanings in ‘different contexts’ and so in order to be able to discern the ‘proper’ or ‘appropriate’ meaning we must first understand how this context operator/function works. Let us work with three different ‘contexts’ of the word “bat”:

1. “Ozzy bit the head off that bat!”
2. “Casey placed the bat at home plate.”
3. “Casey is at the bat.”

At first glance the differences between the three sentences above are purely grammatical. Note that I chose only to explore the usage of “bat” as noun. In the first context, bat refers to a mammal of the subclass *Placentalia*, order *Chiroptera*. The bat is a thing, but a specific type of thing—a furry mammal. More specifically, the ‘bat’ in (1) is individual, we’re not talking about any member of the order *chiroptera*; we’re specifically discussing the particular individual which resides in Ozzy’s mouth at a particular moment. This is different from the noun “bat” used in (2). Similar to (1) ‘bat’ refers to a thing—in this case an elongated wooden shaft. Here ‘bat’ evokes more than just an object; the word has additional predicative connotation. The bat is not only an elongated wooden shaft, it is a particular type of wooden shaft which is shaped in a particular way, and has a particular *use*. The use of the bat can take on different contexts as well:

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2a. "Casey placed the bat at home plate after having struck out."

2b. "James tried to walk in a straight line after revolving about the bat."

2c. "When Karl heard the noise, he grabbed his bat for protection."

Here we are working with the same item, a baseball bat, but it functions in each context in a different way. (2a) has it as a tool for playing baseball, (2b) uses the bat more generically as an axle for a game of balance, and (2c) represents the baseball bat as a defensive weapon. In all three, we might evoke the same or similar image of a bat, but invoke that image in a different way. I might arbitrarily change the image of the bat and the function will remain the same:

2a*. "Casey placed the cedar Louisville Slugger at home plate."

2b*. "James tried to walk in a straight line after revolving about the cricket bat."

2c*. "When Karl heard the noise, he grabbed his aluminum baseball bat."

Now our images of the bats have changed, but the use of the bat in each instance remains the same as before. The point of this thought experiment is that context changed in each of these instances. In each instance we also changed the words which comprised the context, but this is not necessary. Suppose I wanted to express an idea similar to (2a*), I might only think to express this idea by saying (2). I had a more descriptive 'idea' and expressed it in a less-descriptive manner. This should reveal a property of communication which acts as a limitation: incompleteness. If I wanted to communicate the exact sense of gazing out a window on a beautiful Saturday in November, I should now recognize that I would never be able to fully describe the exact situation; and

because I cannot describe the exact situation no listener could possibly have attained the exact situation. In other words, because exact context can never be obtained by language, idea transfer from ego to ego *through* language is at best serendipitous and imperfect, and at worst hopelessly impossible.

Language as Gestalt Philosophy

We now face a grim outlook: we're forced to question whether we are really unable to acquire *anything at all* through the process of linguistic communication. But perhaps the outlook is more nuanced than this bivalent judgment. It feels as though there is still the possibility of acquiring *something* through a communicative act, though maybe not what one had hoped to acquire—the transfer of ideas from one ego to another ego. Though we may not value such an idea as greatly as idea transfer, it could be that what one has acquired through this communicative process is simply his or her own thoughts or ideas; or perhaps the chance to engage one's self in the act of thinking with the help of a 'communicative partner'. For instance: if Fred tried to communicate to James that "Casey placed the cedar Louisville Slugger at home plate." *only* by saying "Casey placed the bat at home plate", the only thing James can hope to receive from this linguistic communication is that "Casey placed the bat at home plate" or some variant. Any further contextualization that occurs must come purely from James—that is, if James happens to visualize Casey placing a cedar Louisville Slugger at the same home plate as Fred was attempting to describe, this happened not as a result of the language used, but as a result of James' own imagination—the similarity between Fred's and James' views is either serendipitous or uncanny.

In this sense, it seems as though ‘context’ is the type of thing which cannot be properly transmitted through linguistic expression. In fact, it also appears as though context is never duly attained by the expresser either. If we look to context as a functional distillation of the content of a proposition (i.e. a function which maps referential meaning of a sentence to sensible meaning of a proposition), the most logical question to ask then is “What new meaning have we now acquired by applying the context rule?” In order for context to be able to yield to the proposition *meaning* the application of a contextual rule must then be able to carry or transform meaning—in essence, efforts enacted to contextualize must have the result of bringing meaning to a proposition where there was none before. And this appears to make sense. When I take the utterance in (3) “Casey is at the bat” I may feel as though there is something amiss. “Bat” here seems to be used in an entirely different way, and I may not be able to imagine a proper usage. I am faced with two options: to either categorize the sentence as nonsensical, or to search into the context of (apply the function ‘context’ to) the sentence and imagine what a proper usage might yield meaningfully. Here too it seems as though context might be inadequate, as I am able to imagine multiple contexts (the function ‘context’ maps elements of a domain to multiple elements in a co-domain) in which the proposition in (3) could make sense. For instance, I could’ve interpreted “Casey is at the bat” to designate a particular (but as-of-yet ambiguous) locus as in “Casey is at the bat, which is between the football and the basketball”. Or I might have interpreted the proposition as responding to “Up to which item in the inventory has Casey completed?”... “Casey is at the bat.” As well as the seemingly more-obvious “Who is currently up to bat?”... “Casey is at the bat”. The point that I wish to make, is that a proposition does not select its proper

context; we must do that for ourselves, and we must also be creative and imaginative about the contexts which we select. Moreover, I have the potential to choose an ‘incorrect’ context—that is, I can select a context wherewith-in a larger propositional scope this context becomes problematic to my understanding. The existence of this potential presents a dire consequence for ‘context’ as a function of propositional meaning because we must continually verify whether we’ve ascertained a proper cohesive context by checking it up against a context operating on a larger scope, and now checking *that* context up against another, *ad infinitum*—as the saying goes “it’s turtles all the way down”.

Groundlessness

So if we want context to act as a functional mapping from meaningless sentences to meaningful propositions, we’ve got to assume at some point that we have a proper context without verification; forcing us to acknowledge that *meaning is ungrounded* within the confines of linguistic expression. The implied idea here is essentially that the only true sense of context is restricted specifically to the moment of occurrence. What I mean here is that since context can never duly be attained by formulating linguistic expression the only place proper context can occur is in the original position of the idea. If I wanted to communicate the exact sense of gazing out a window on a beautiful Saturday in November, the proper context could only be found in the moment that I am actually gazing out that window—in all its infinite, inexpressible detail, or ineffable lack thereof.

The view I espouse here is this: the fact that a specific idea miraculously happened to transfer exactly to Fred when I attempted communicating it is, at best, no more than simply a chance occurrence. But perhaps we are operating on an

inaccurate notion of ‘ego’. Earlier we had defined in a certain sense what it would mean for an ego to consider itself in juxtaposition with another ego. We defined ego such that it was “that thing which one believes is one’s self”. On this definition, the implication was that egos necessarily operate as freestanding entities—my ego cannot be linked in any way to yours because if it was there would be no me-you boundary; and because I can feel this boundary, it must exist. The way I had originally conceived of this boundary, I considered it in the sense that if I look at my left hand and think in a certain way, I can get that hand to pick up a pen and make controlled marks on a piece of paper. I cannot enact the same type of action if I had looked at Fred’s left hand and desired to will it to pick up a pen and make controlled marks on a piece of paper. So if I had wanted the entity that I call Fred to be considered as a similar entity as what I consider myself (both Fred and I having ‘egos’) I had to imagine that Fred ‘perceives’, at least in some abstract sense, the same way as I do. However, I simply do not have access to that particular perception (and vice versa); and as such, there is no way of determining similarity in perception. Thus the boundary between Fred/ego, and me/ego either exists or is indeterminable.

A Possible Red-Herring

Alternatively, I can also imagine a sort of “collective unconscious” which would act as an ego-inaccessible communication link that operates between egos as a medium through which exact or close-to exact ideas can be transferred. If this is the case, than it is by virtue of this “collective unconscious”, and not by virtue of the essence of language which allows for the transference of ideas. Since here I am only concerned with the work that is done by language (and in

particular the sense of context within the workings of language) any argument concerning or necessitating this sort of telepathic exchange cannot have bearing on my conclusions.

On the other hand, if in order to communicate we require the sensibility of context in order to determine the sensibility of words (i.e. if context is necessitated by words in order to have meaning) then it is evident that we are in a dire situation with respect to sense or meaning. Since a proper or exact context can be reached neither by the expresser nor by the interpreter of an attempted linguistic communication, we are always, in a sense reaching into a cloud of potential meanings, hoping to grasp something concrete, and returning empty-handed.

Beyond Thunderdome

It is of some interest at this juncture to speak about what is changed, if anything, by philosophical endeavor. Surely something is gained, as is the case in any field when one sets out to learning. Indeed the entire concept of learning turns on the continual amassment of thought power and ceaseless broadening of the frontiers of understanding in a general sense. But even here I find myself using terminology I'd like to avoid. To speak of the 'frontiers' of understanding is to acknowledge and draw these boundaries. In general then, it could be understood by this paper that boundaries are the only enemy, if an enemy is to be identified. The process of identification too is the process of boundary-making; so in a more generalized and abstracted philosophical sense I am championing a de-identification process—or at least some way of loosening or breaking the ties that structurize, categorize, boundary, and box ourselves into a limited existence (determinate though undetermined). The superseding point hitherto eludes: the goal of my philosophy is admittedly

critical and in a superficial sense non-constructive. But if one is to understand me, he must then also recognize that I take 'construction' to be the wrong way of building. If we begin baseless and ungrounded, how can we proceed in a directed and contingent way and have the audacity to believe in our work? Metaphorically speaking, I am advocating the powerful erosive powers of atmosphere—testing the foundations with all of the existent elements of chaos. Pouring sand is a way of building without structurizing: the wind blows the sand and kicks up the dust, churning and tumbling all the heterogeneous elements to fall where they may. This chaotic amalgam is what I understand to be true to life, and it is *this* overbearing paradoxastic truth that I would like to extend to philosophical enterprise.

Philosophy is coming to grips with a world subsumed by chaos—it seems only reasonable that philosophy mirror such a world. The sense then, to be made of this chaotic world is a chaotic sense; a paradoxical sense. Just as building cages is not the ideal method for investigating the behavior of wild animals; philosophy should not be conducted by building structures and theories to investigate the essence of reality. Like the scientist who either searches indefinitely, or quits in confusion at the edges of understanding, the philosopher is faced with the boundlessness of unanswerable questions (it occurs that a question may be no question at all, if it is in its essence unanswerable—a problem entails a solution, a question entails an answer, etc) or stopping-short by using a structural theory to force-fit an amorphous reality.



Defending Liberty, Pursuing Justice

Frank Falcone

Introduction

The United States is a representative democracy that operates through a congressional system under a set of powers specified by the Constitution. The Constitution contains a commitment to “preserve liberty” with a Bill of Rights and other amendments, guaranteeing the freedom of speech, religion, press, right to a fair trial, right to keep and bear arms, universal suffrage, and property rights. The Constitution, the Bill of Rights, laws passed by Congress, and all of the treaties in which the United States has signed, give Americans rights and guidelines to which they can act. These documents also outline the powers and duties of the three branches of the federal government. Recently however, these powers have been distorted, manipulated, and ignored by those in power, who swore to protect them.

Lately, the President has been exerting powers outside his constitutionally-formed boundaries because his lawyers have violated their professional obligation. Not only must lawyers assist their clients in accomplishing their goals, but they have a duty, as an officer of the court and as a citizen, to uphold the law. Lawyers must tell their clients not only what they can do, but also what they cannot do. This duty compels all lawyers, especially lawyers in government service, because their ultimate client is the American people. When representing all Americans, government lawyers must adhere

to the Constitution and the rule of law. The lawyers in the Department of Justice and those in other governmental agencies have supported these unconstitutional actions and frequently attempt to justify them. It is the fault of these attorneys that the principle on which our government was formed has been violated by a dramatic swelling of U.S. presidential war time powers. This deficiency can be seen by examining the constitutional structure, past usages of presidential war power, the War on Terror, and attorney duties.

Constitutional Structure

When the framers gathered in Philadelphia in 1787 to draw up the Constitution, existing models of government in Europe placed the war power solely in the hands of the King. The framers did not follow this tradition. By learning from past mistakes, they deliberately took the power to initiate war from the executive branch and gave it to the legislature. The framers, hoping to attain an ideal of republican government, constructed a Constitution “that allowed only Congress to loose the military forces of the United States on the other nations”.²⁸ The delegates at the constitutional convention decided that the principle of collective judgment, shared power in foreign affairs, and “the cardinal tenet of republican ideology that conjoined wisdom of many is superior to that of one.”²⁹

²⁸ Edwin B. Firmage, “War, Declaration of,” in 4 Encyclopedia of the American Presidency 1573 (Leonard W. Levy and Louis Fisher, eds. 1994).

²⁹ David Gray Adler, “Foreign Policy and the Separation of Powers: The Influence of the Judiciary,” in Judging the Constitution: Critical Essays on Judicial Lawmaking 158 (Michael W. McCann and Gerald L. Houseman, eds. 1989).

In the British model, the power to initiate war remained with the monarch. John Locke argues in his “Second Treatise on Civil Government” that to separate the executive and foreign policy powers would invite “disorder and ruin.”³⁰ A similar model appeared in the “Commentaries on the Laws of England”, written by Sir William Blackstone in the eighteenth-century. He defined the king’s privilege as “those rights and capacities which the king enjoys alone.”³¹ Some of the privileges he considered included “the right to send and receive ambassadors and the power to make war or peace.”³²

These models of executive power were well known to the framers. They knew that their forerunners in England had committed to the executive the sole power to go to war. After the Revolutionary War, the founders constructed a model that vested all executive powers in the Continental Congress. The framers gave many of Locke’s foreign policy powers and Blackstone’s principles to Congress. The power to declare war was not given to a single executive.³³ Instead, it was transferred to a group that would make a decision based upon collective wisdom. Joseph Story, who served on the Supreme Court from 1811 to 1845, wrote about the republican principle’s views on war powers:

The power of declaring war is not only the highest sovereign prerogative; but that it is in its own nature and effects so critical and calamitous, that it requires the utmost deliberation, and the successive review of all the councils of the nation. War, in its best estate, never fails to

³⁰ John Locke, *Second Treatise on Civil Government*, 146-48 (1690)

³¹ William Blackstone, *Commentaries on the Laws of England* 238 (1803).

³² *Id.* At 239

³³ Joseph Story, *Commentaries on the Constitution of the United States* 50-68 (1833).

impose upon the people the most burthensome taxes, and personal sufferings. It is always injurious, and sometimes subversive of the great commercial, manufacturing, and agricultural interests. Nay, it always involves the prosperity, and not unfrequently the existence, of a nation. It is sometimes fatal to public liberty itself, by introducing a spirit of military glory, which is ready to follow, wherever a successful commander will lead;...It should therefore be difficult in a republic to declare war; but not to make peace...The co-operation of all the branches of the legislative power ought, upon principle, to be required in this the highest act of legislation...³⁴

The debates at the Philadelphia convention showed that the framers were determined to limit the President's authority to take unilateral military actions. The early draft empowered Congress to "make war." Charles Pinckney objected that legislative proceedings "were too slow" for the safety of the country in an emergency, since Congress was expected to meet only once a year. James Madison and Elbridge Gerry proposed to substitute the word "declare" instead of "make" in order to give the President "the power to repel sudden attacks" and this motion became law.³⁵

There was no doubt about the limited scope of the President's war power. The duty to repel sudden attacks was only put in place as an emergency measure and only permits the President to take actions necessary to resist sudden attacks either against the mainland of the United States or against American troops abroad. The President never received a general power to send troops whenever and wherever he

³⁴ Id at 60-61.

³⁵ Max Ferrand, ed., *The Records of the Federal Convention of 1787*, 4 vols. 318-319 (New Haven, Conn.: Yale University Press, 1937).

thought best, and the framers did not authorize him to take the country into a full-scale war or to launch an offensive attack against another nation.³⁶ John Bassett Moore, a noted scholar of international law, states:

There can hardly be room for doubt that the framers of the constitution, when they vested in Congress the power to declare war, never imagined that they were leaving it to the executive to use the military and naval forces of the United States all over the world for the purpose of actually coercing other nations, occupying their territory, and killing their soldiers and citizens, all according to his own notions of the fitness of things, as long as he refrained from calling his action war or persisted in calling it peace.³⁷

To further limit the power of the executive branch, the framers decided to separate the purse from the sword. The power of the purse, said Madison in Federalist No. 58, represents the “most complete and effectual weapon with which any constitution can arm the immediate representative of the people, for obtaining a redress of every grievance, and for carrying into effect every just and salutary measure.” Madison insisted on keeping the power of Commander in Chief at “arm’s length” from the power to take the nation to war in order to protect civil liberties.³⁸ Madison wrote:

Those who are to *conduct a war* cannot in the nature of things, be proper or safe judges, whether *a war ought* to be *commenced, continued, or concluded*. They are barred

³⁶ The Collected Papers of John Bassett Moore 196 (1944).

³⁷ Id at 196.

³⁸ The Writings of James Madison 147-9.

from the latter functions by a great principle in free government, analogous to that which separates the sword from the purse, or the power of executing from the power of enacting laws.³⁹

At the Philadelphia convention, George Mason added that the “purse and the sword ought never to get into the same hands, whether Legislative or Executive.”⁴⁰

Despite these studies, John Yoo, legal counselor for the United States Justice Department, argued in 1996 that the framers constructed constitution systems that “encourage[d] presidential initiative in war.”⁴¹ He claimed that the Constitution’s provisions for the war power “did not break with the tradition of their English, state, and revolutionary predecessors, but instead followed in their footsteps.”⁴² He concludes that “the war power provisions of the Constitution are best understood as an adoption, rather than a rejection, of the traditional British approach to war powers.”⁴³ That argument contradicts not only statements made at the Philadelphia convention and the state ratification debates but also the text of the Constitution.

Over the next two centuries, several international incidents were by Presidents and their supporters to justify expanding the executive’s war powers at the expense of Congress. The concept of “defensive war” was stretched to explain presidential war-making throughout the world. In the twentieth century, other developments were used to inflate

³⁹ Id at 148.

⁴⁰ Max Ferrand, ed., *The Records of the Federal Convention of 1787*, 4 vols. 139-140 (New Haven, Conn.: Yale University Press, 1937).

⁴¹ John C. Yoo, “The Continuation of Politics by Other Means: The Original Understanding of War Powers,” 84 Cal. L. Rev. 167, 174 (1996)

⁴² Id. at 197

⁴³ Id. at 242

the President's war power. Without the legal support of our most respected attorneys, this power has extended beyond the intention of the framers and beyond the control of Congress and the public.

Past Usages of War Powers

Presidential use of force during the first few decades after the Philadelphia convention went along with the expectations of the framers. The decision to go to war or to engage in offensive strikes still remained with Congress and the president accepted that principle for all wars whether they were declared or undeclared. This power gradually widened. For instance, in 1845, the President was allowed to provoke war with Mexico by moving troops and vessels.⁴⁴

Soon, presidents invoked the right to protect American lives and property abroad as justification for military intervention in foreign countries. For example, on December 9, 1891, President Benjamin Harrison reported an incident in Valparaiso, Chile to Congress; an incident which resulted in the death of two American seamen and the serious injury of several other Americans. Although Harrison never recommended the use of force, he asked Chili for a suitable apology and adequate reparation for the injury done to the United States or else he would terminate diplomatic relations with them.⁴⁵

Other examples include President Wilson's actions during the outbreak of World War I. In 1914, Wilson issued proclamations of neutrality, and in doing so he banned the

⁴⁴ Charles C. Tansill, "The Presidents and the Initiation of Hostilities: The Precedents of the Mexican and Spanish-American Wars," reprinted in *The President's War Powers: From the Federalists to Reagan* 86 (Demetrios Caraley, ed. 1984).

⁴⁵ Joyce Goldberg, The "Baltimore" Affair 103 (1986).

"transmitting or receiving for delivery messages of an unneutral nature."⁴⁶ Later, he closed the Marconi Wireless Station at Siasconset, Massachusetts, because it refused to comply with these censorship regulations. Attorney General Thomas Gregory justified these actions by stating that it was the President's right and duty, in the absence of any statutory restrictions, to close down or seize any plant "should he deem it necessary in securing obedience to his proclamation of neutrality."⁴⁷

As soon as Germany had refused to abandon its policy of unrestricted submarine warfare, Wilson broke diplomatic relations with them. Later, Wilson made the crucial policy decision to move from neutrality to armed neutrality, by arming American merchant ships, and finally to a state of war with Germany. On April 2, 1917, Wilson called Congress into session to review the continued use of German submarines against neutral vessels. Wilson stated that it "now appears [to be] impracticable," to remain neutral and asked Congress to declare war on Germany.⁴⁸

President Franklin Delano Roosevelt also led the country from a state of neutrality to one of war. On September 8, 1939, shortly after Germany invaded Poland, Roosevelt proclaimed a state of limited emergency. During this time, the United States supplied war supplies to the Allied Forces to help them in the war against Germany and Italy. In June 1940, when France requested additional assistance from the U.S., Roosevelt expressed his admiration for their "resplendent courage" in dealing with the German troops and promised to

⁴⁶ James D. Richardson, ed., *A Compilation of the Messages and Papers of the Presidents*, 20 vols. (New York: Bureau of National Literature, 1969-77

⁴⁷ Operation Attorney General 291, 293 (1914).

⁴⁸ Harvey A. DeWeerd, *President Wilson Fights His War: World War I and the American Intervention* 21 (1968).

continue to assist them with airplanes, artillery, and ammunition. He informed France, however, that "these statements carry with them no implication of military commitments. Only the Congress can make such commitments."⁴⁹

In order to further assist the Allies, Congress passed the Lend-Lease Act on March 11, 1941. This act gave the President the authority to manufacture any defense item and to "sell, transfer title to, exchange, lease, lend, or otherwise dispose of" a defense item to any country whose defense he determined to be vital to the defense of the United States.⁵⁰

In a petition to Congress on April 10, Roosevelt asked for legislation that would allow him to make use of foreign merchant vessels that were lying idle in American ports. Roosevelt said clearly that he lacked authority to use these ships and Congress responded by granting him the necessary legislation.⁵¹ On December 7, 1941, Roosevelt asked Congress to declare war after Japan's attack on Pearl Harbor and Congress complied with his request.⁵²

In 1954, President Dwight D. Eisenhower asked Congress to pass a resolution giving the President authority to use American air and sea power in Southeast Asia. This was refused by Congress because of the possibility of another Korean War, and they insisted that any involvement by the United States would have to include the support of Britain and the other allies.⁵³

In August 1964, following President Johnson's report of an attack against U.S. vessels in the Gulf of Tonkin, Congress

⁴⁹ Public Papers and Addresses of Franklin d. Roosevelt 267 (1940 volume).

⁵⁰ Statute 31, (1941).

⁵¹ Public Papers and Addresses of Franklin d. Roosevelt 94 (1940 volume).

⁵² *Id.* at 95.

⁵³ Dwight D. Eisenhower, *Mandate for Change* 82 (1963).

passed legislation to authorize the use of armed force. Several years later, U.S. soldiers were stuck in a land war in Southeast Asia and had to deal with huge casualties. As a result, Congress began to re-evaluate its role in twentieth-century wars, and after a long national debate, the War Powers Resolution of 1973 emerged.⁵⁴

In an effort to limit presidential war power, Congress passed the War Powers Resolution. The resolution recognized that the President “in certain extraordinary and emergency circumstances has the authority to defend the United States and its citizens without specific prior authorization by the Congress.” Instead of trying to define the exact conditions under which Presidents may act and use force, the House decided on implementing procedural safeguards. The President would be required, “whenever feasible,” to consult with Congress before sending American forces into armed conflict. He was also to report the circumstances that led him to initiating action and the estimated scope of his activities.⁵⁵ Additionally, the President must remove U.S. armed forces if Congress had not declared war or passed a resolution approving the use of force within sixty days.⁵⁶ If an official request is given by the President to Congress, the time limit can be extended by an additional 30 days only when “unavoidable military necessity” requires additional action for a safe departure.⁵⁷

President Ford and President Carter reported only five uses of armed forces, and three of the occasions under Ford only involved military efforts to evacuate American citizens

⁵⁴ “Southeast Asia Resolution,” joint hearings before the Senate Committees on Foreign Relations and Armed Services, 88th Cong., 2d Sess. 25 (1964).

⁵⁵ Congressional Records 27298-408 (1970).

⁵⁶ Id. at Section 5(b).

⁵⁷ Id. at Section 5(c).

and foreign nationals from Southeast Asia. Other than those operations, during the six and a half years of Ford's and Carter's terms of office there were only two presidential motions to use armed forces. They were Ford's efforts to rescue the *Mayaguez* crew in 1975, and Carter's attempt to rescue American hostages in Iran in 1980.⁵⁸

Although military activity accelerated during the Ronald Reagan and George H. W. Bush administrations, presidential power was not abused. Reagan submitted 14 reports under the War Powers Resolution and Bush six. Most of the reports referred to major military operations such as the dispatch of U.S. Marines to Lebanon in 1982, the invasion of Panama in 1989, and the war against Iraq in 1991.⁵⁹

President Bush's decision to pull out of Iraq after the military victory, rather than continue on to Baghdad, was later criticized since it allowed Saddam Hussein to regroup and gain power. However, Bush acted in accordance with the UN Security Council resolutions and the congressional statute that only authorized him to take military action to remove Iraqi troops from Kuwait, and not to attack Baghdad. The statute only allowed the President to use U.S. armed forces to eject Iraqi troops from Kuwait.⁶⁰

In A World Transformed, a book he later wrote with Brent Scowcroft, Bush states why he discontinued military operations after taking Iraqi troops out of Kuwait. His position is interesting when compared to the more determined plans of George W. Bush, who chose in 2003 to occupy Iraq

⁵⁸ "Seizure of the *Mayaguez*" (parts I and II), hearings before the House Committee on International Relations, 94th Cong., 1st Sess. (1975); 121 Cong. Rec. 18312-13 (1975) 85 Yale L. J. 774 (1976).

⁵⁹ "War Powers, Libya, and State-Sponsored Terrorism," hearings before the House Committee on Foreign Affairs, 99th Cong., 2d Sess. 2 (1986).

⁶⁰ UN Security Council Resolution 660-62, 664-67, 669-70, 674, 667, and 678

after losing support from many nations, including Germany, France, and Russia. In 1998, Bush stated:⁶¹

I firmly believed that we should not march into Baghdad. Our stated mission, as codified in UN resolutions, was a simple one - end the aggression, knock Iraq's forces out of Kuwait, and restore Kuwait's leaders. To occupy Iraq would instantly shatter our coalition, turning the whole Arab world against us, and make a broken tyrant into a latter-day Arab hero. It would have taken us way beyond the imprimatur of international law bestowed by the resolutions of the Security Council, assigning young soldiers to a fruitless hunt for a securely entrenched dictator and condemning them to fight in what would be an unwinnable urban guerilla war. It could only plunge that part of the world into even greater instability and destroy the credibility we were working so hard to reestablish.⁶²

It is apparent that although past Presidents have expanded their war powers set out in our Constitution, they have all done so with congressional approval. Their actions were done in accordance with the law because they were given proper legal counsel. The adequacy of presidential legal counsel has begun to dwindle over the past ten years with the emergence of the War on Terror. The most senior lawyers in the Department of Justice and other governmental organizations have fought to justify actions that are so inhumane and blatantly illegal that they threaten the principles on which the United States was founded.

⁶¹ George Bush and Brent Scowcroft, *A World Transformed* 464 (1998).

⁶² *Id* at 464.

War on Terror

On June, 1993, President Clinton ordered an air strike against Iraq. In an address to the nation, he spoke on the attempted assassination of former President Bush during a visit to Kuwait. Sixteen suspects, including two Iraqi nationals, were arrested. Although the trial of those suspects was still underway in Kuwait, the CIA stated that there was “compelling evidence that there was, in fact, a plot to assassinate former President Bush and that this plot, which included the use of a powerful bomb made in Iraq, was directed and pursued by the Iraqi intelligence service.” As a result, Clinton called the attempted assassination of Bush “an attack against our country and against all Americans.”⁶³ In a message to Congress, he said that the attack was ordered “in the exercise of our inherent right of self-defense as recognized in Article 51 of the UN Charter and pursuant to my constitutional authority with respect to the conduct of foreign relations and as Commander in Chief.”⁶⁴

However, Clinton did not consult with members of Congress before ordering the launching of 23 Tomahawk cruise missiles against the Iraqi intelligence service’s principal command and control facility in Baghdad. Clinton said that the attack on Baghdad “was essential to protect our sovereignty, to send a message to those who engage in state-sponsored terrorism, to deter further violence against our people, and to affirm the expectation of civilized behavior among nations... We will combat terrorism. We will deter aggression. We will protect our people.”⁶⁵ However, history has shown that his argument is flawed. As, Michael Ratner

⁶³ Public Papers of the Presidents, 1993, I, at 938.

⁶⁴ Id. at 940.

⁶⁵ Id. at 938-39.

and Jules Lobel, two attorneys of constitutional law noted, “calling the U.S. bombing of Iraq an act of self-defense for an assassination plot that had been averted two months previously is quite a stretch.”⁶⁶ If the United States had evidence of terrorist activity by Syria, why would it have launched cruise missiles against intelligence facilities in Damascus? Other methods, less confrontational, would have been used. Many argue that Iraq was attacked because, like Cambodia, Grenada, and Libya, it was a weak and isolated nation that could be dealt with militarily with little fear of retaliation. This air strike was no more than a ploy by Clinton to demonstrate his military “toughness.”⁶⁷

Following in Clinton’s footsteps, George W. Bush used the excuse of “combating terrorism” to further extend his presidential war power. On September 11, 2001, terrorists from the Middle East hijacked four U.S. commercial airliners and flew two of them into the World Trade Center and one into the Pentagon, killing almost 3,000 people. Bush responded with a proclamation on September 13, where he referred to the terrorist attacks as “acts of war.”⁶⁸

During his administration, President George W. Bush expressed the concept of “preemptive action” much more ambitiously than the presidents before him and at times he even acted unilaterally, specifically when he authorized the creation of military tribunals to try those responsible for 9/11. Throughout this time, Congress and the courts provided

⁶⁶ Michael Ratner and Jules Lobel, “Bombing Baghdad: Illegal Reprisal or Self-Defense?” *Legal Times*, July 5, 1993, at 24.

⁶⁷ Louis Fisher, “President Clinton as Commander in Chief,” in *Rivals for Power*, ed. James A. Thurber 215 (1996).

⁶⁸ *Weekly Compilation of Presidential Documents* 1308.

hardly any legislation and even fewer judicial checks to his military initiatives.⁶⁹

The potential scope of current presidential war power can be seen in the document titled “National Security Strategy,” released by the Bush administration in September 2002. This document articulates the doctrine of preemption and, the even broader concept of, preventative war. President Bush pledged to “act against such emerging threats before they are fully formed... [History] will judge harshly those who saw this coming danger but failed to act. In the new world we have entered, the only path to peace and security is the path of action.”⁷⁰ However, European nations feared that the new doctrine preferred unilateral U.S. military action at the price of multilateral institutions and international alliances.⁷¹

Before using military force against Afghanistan and Iraq, President Bush, after gaining statutory support, acted unilaterally on what he considered to be his independent constitutional power to create military tribunals. On November 13, 2001, he issued a military order to authorize the creation of military tribunals to try an individual who was “not a United States citizen” who provided assistance to the 9/11 attacks. This action was done without mention to anyone on Capitol Hill, including the Judiciary and Armed Services Committees.⁷²

In order to justify this action, Bush cited a unanimous ruling by the Supreme Court in *Ex parte Quirin* (1942), which upheld Franklin D. Roosevelt’s military tribunals used to try

⁶⁹ “The Bush Doctrine,” Washington Post, September 22, 2002, at WK 12.

⁷⁰ The National Security Strategy of the United States of America, September 2002, page 2 of introductory statement by President Bush, September 17, 2002.

⁷¹ Glenn Frankel, “New U.S. Doctrine Worries Europeans,” Washington Post, September 30, 2002, at A1.

⁷² Bob Woodward, *Bush at War* 139-54 (2002).

eight German saboteurs. William P. Barr, appointed Attorney General by the George H. W. Bush administration, coauthored an article titled, “Military Justice for al Qaeda,” where he called the 1942 decision the “most apt precedent” for what the Bush administration wanted to do in 2001.⁷³

Tribunals are usually justified when civil courts are unavailable or not functioning. In addition, the 1942 decision was revisited in 1945 when the Franklin Roosevelt administration adopted an entirely different procedure to deal with two other German spies. In 1942, the eight Germans were charged, assigned defense attorneys, subjected to a trial, and allowed to challenge the tribunal’s jurisdiction before the Supreme Court. The Bush administration misapplied the *Ex parte Quirin* precedent when it tried to relate it to U.S. citizens, Yasser Esam Hamdi and Jose Padilla. Although Bush designated U.S. citizens as “enemy combatants,” he refused to charge them with a crime, allow them counsel, or bring the matter to trial. Nothing in *Quirin* justifies holding a U.S. citizen indefinitely without access to counsel or a trial and attorneys such as William P. Barr knew this but argued differently out of respect for the President.⁷⁴

In the initial debates of the war against Iraq, the Bush administration announced that President Bush did not need authority from Congress to mount an offensive war against Iraq. The White House Counsel’s office presented a broad reading to the President’s power as Commander in Chief and argued that the 1991 Iraq Resolution provided continuing military authority to the President, transferring the authority

⁷³ William P. Barr and Andrew G. McBride, “Military Justice for al Qaeda,” Washington Post, November 18, 2001, at B7.

⁷⁴ Dworkin, Anthony. “Detention of US Citizens May Open Anti-Terrorism Campaign to Legal Scrutiny.” Crimes of War Project 17 June 2002. 13 Dec. 2006 <<http://www.crimesofwar.org/onnews/news-almuhajir.html>>.

from George H. W. Bush to his son.⁷⁵ This delusion would greatly disturb the framers, since they made the President Commander in Chief, not dictator.

The White House also claimed that Congress, by passing the Iraq Liberation Act of 1998, had already approved U.S. military action against Iraq for violations of the UN Security Council resolutions.⁷⁶ Then again, the statute's efforts were to remove Saddam Hussein from power and replace him with a democratic government. The law states that none of its provisions "shall be construed to authorize or otherwise speak to the use of United States Armed Forces (except as provided in section 4(a)(2)) in carrying out this Act."⁷⁷ The statute authorized military supplies to Iraqi opposition groups, but not war.

Although, Bush eventually abandoned his unilateralist approach and went to Congress for support, Congress was expected to act quickly. According to one newspaper story, White House officials "have said that their patience with Congress would not extend much past the current session." The administration wanted Congress to pass an authorizing resolution before it came to a close for the November elections. This left very little time for independent legislative debate and analysis.⁷⁸

Democrat Robert Byrd led the resistance to this motion. In response to Senator Daschle's statement saying that he intended "to give the President the benefit of the doubt," Bryrd stated, "I will not give the benefit of the doubt to the

⁷⁵ Mike Allen and Juliet Eilperin, "Bush Aides Say Iraq War Needs No Hill Vote," Washington Post, August 26, 2002, at A1.

⁷⁶ "Bush Rejects Hill Limits on Resolution Allowing War," Washington Post, October 2, 2002, at A12.

⁷⁷ Statute 112 (1998).

⁷⁸ Mike Allen, "War Cabinet Argues for Iraq Attack," Washington Post, September 9, 2002, at A1.

President. I will give the benefit of the doubt to the Constitution.”⁷⁹ Byrd saw the debate surrounding Iraq becoming a question of “how best to wordsmith the president’s use-of-force resolution in order to give him virtually unchecked authority to commit the nation’s military to an unprovoked attack on a sovereign nation.” Nevertheless, Congress granted Bush the authority he wanted.

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Later on, Bush referred to the “resolution of support” and said that the signing of the resolution did not “constitute any change in the long-standing positions of the executive branch on either the President’s constitutional authority to use force to deter, prevent, or respond to aggression or other threats to U.S. interests or on the constitutionality of the War Powers Resolution.”⁸¹ Bush stated that his combat order, which he delivered in March 2003, was within his independent constitutional powers.⁸²

The failure to find weapons of mass destruction in Iraq raised the question of whether the Bush administration misinterpreted or altered intelligence reports to amplify the nature of the Iraqi threat. For example, during the time when Congress was considering whether or not to authorize military operations, Bush stated that Iraq “had stockpiled biological and chemical weapons.”⁸³ In addition, on March 6, 2003 shortly before going to war, President Bush said that Iraq “has weapons of mass destruction.”⁸⁴

⁷⁹ Robert C. Byrd, “Congress Must Resist the Rush to War,” *New York Times*, October 10, 2002, at A35

⁸⁰ *Id.* at A35.

⁸¹ *Weekly Compilation of Presidential Documents* 1777.

⁸² *Id.* at 1778

⁸³ *Id.* at 295.

⁸⁴ *Id.* 299.

Congress failed to comply with its constitutional duties when it authorized military action against Iraq. The Bush administration did not present enough convincing information to rationalize statutory action in October 2002 and military operations in March 2003. Congress did not demand sufficient credible evidence before passing the Iraq Resolution. Political scientist and historian, Louis Fisher, writes, "Instead of passing legislation to authorize war, members of Congress agreed to compromise language that left the decisive judgment with the President."⁸⁵ By placing the power to initiate war in the hands of one person, Congress did exactly what the framers hoped to avoid when they drafted the Constitution. Nevertheless, the framers created three branches to combat the union of two. It is not the fault of the president whose job is only to execute the law, nor is it completely Congress's fault whose job it is to create law. It is the judicial branch's responsibility to determine whether or not a law is constitutional and, more importantly, it is our nation's lawyers' duty to make sure justice is carried out.

Lawyer/Department Duties

Lawyers act as both advocates and advisors in our society. As advocates, they represent parties in criminal and civil trials by presenting evidence and arguing in court to support their client. As advisors, lawyers counsel their clients concerning their legal rights and obligations and suggest particular courses of action in business and personal matters. Whether acting as an advocate or an advisor, all attorneys research the intent of laws and judicial decisions and apply them to the specific circumstances their clients face.

⁸⁵ Fisher, Louis, *Presidential War Power*, Second Edition, Revised 235 (Lawrence, Kansas: University Press of Kansas 2004)

The American Bar Association is the national representative of the legal profession. They serve the public and the profession by promoting justice, professional excellence and respect for the law. John Yoo now sits on the ABA's Advisory Committee and its Standing Committee on Law and National Security. However, he is mostly known for the work he did from 2001-2003 when he served as a deputy assistant attorney general in the Office of Legal Counsel of the U.S. Department of Justice. Yoo worked on issues involving foreign affairs, national security, and the separation of powers.

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In the aftermath of the 9/11 attacks, Yoo played an important role in the Office of Legal Counsel to the U.S. Department of Justice, where he frequently defended the most extreme legal actions the administration was considering. For example, in August 2002, he wrote a memorandum arguing that both international and domestic legal prohibitions on torture represent unlawful restraints on presidential power. Yoo advised the President that the framers always intended for the executive to dominate foreign and military affairs. He even ignored the fact that the Constitution places the authority to "declare war" unquestionable in the hands of Congress. Due to Yoo's advice, President George W. Bush typically justified his legal positions in the War on Terror by noting that the Constitution makes him Commander in Chief and thus primarily responsible for defending the American people.⁸⁷

Congress's authority to declare war was written to be a strict constitutional rule so that the executive could not simply mount war without formal congressional authorization. Even

⁸⁶ "About the ABA." American Bar Association. 1 Dec. 2006
<<http://www.abanet.org/>>.

⁸⁷ Shane, Peter M. "Powers of the Crown." The Political Science Review os (2005): 1-3. 1 Dec. 2006.

in the case of repelling sudden attacks, while the executive might need to act immediately in order to defend America, Congress must then be convened in order to provide proper constitutional guidance to the executive.⁸⁸

Critics have called Yoo's interpretation of the framers everything from eclectic to immoral. He tends to devalue and ignore the Constitution because it works against his argument, while focusing on eccentric readings that were never intended to further an argument such as his. Yoo manipulated the notion of the emergency situation so far that he portrayed the many undeniable threats (terrorism) to the nation as being worse than traditional forms of warfare or violent rebellion. William E. Scheuerman states, "If every significant threat to the political status quo (an outbreak of avian flu virus, for example, or another terrorist attack on U.S. territory) necessarily requires massive augmentations of poorly regulated executive power, Americans indeed will probably have to bid farewell to the rule of law."⁸⁹

However, this negligence to the law, to justice, and to the American people does not solely fall on one person. The lawyers who approved and signed the Bush Administration's memoranda, dated January 9, 2002, January 25, 2002, August 1, 2002, and April 4, 2003, have also grossly misinterpreted and disregarded the U.S. Constitution. Among these men are Attorney General, Alberto Gonzales, General Counsel of the Department of Defense, William J. Haynes II, Assistant Attorney General for the Office of Legal Counsel, Jay S. Bybee, and, Justice Department Special Counsel Robert Delahunty.

⁸⁸ *Id.* at 5-7

⁸⁹ Scheuerman, William E. "The Powers of War and Peace: the Constitution and Foreign Affairs After 9/11." *The Political Science Review* 96 (2005): 2. 1 Dec. 2006.

Among other things, these lawyers have advised the President to ignore laws, treaties and the Constitution in regard to the treatment of prisoners because of his role as Commander in Chief.⁹⁰ They have also contrived defenses to avoid independent responsibility for actions that would violate the U.S. Army Field Manual and relevant statutes and precedents. This was done by altering definitions of “necessity,” “self-defense,” and “superior orders.”^{91 92 93}

These lawyers have also instructed the President that he has the authority to authorize the infliction of extreme physical pain and mental distress by defining “torture” so strictly as “equivalent in intensity to the pain accompanying serious physical injury, such as organ failure, impairment of bodily function, or even death.” According to the memoranda, physical or mental pain does not amount to torture except if “it results in significant psychological harm of significant duration, e.g., lasting for months or even years.”⁹⁴ This memo was allegedly prepared in order to provide justification for cruel methods previously practiced by the CIA, in case CIA agents were later prosecuted for breach of the federal anti-torture statutes.⁹⁵

In addition, these lawyers advised the President that regardless of warnings issued by the Department of State, the U.S. does not have to follow the rules set out in the Geneva Convention on the Treatment of Prisoners of War when

⁹⁰ DOD Memo, April 4, 2003.

⁹¹ DOJ Memo, August 1, 2002.

⁹² DOD Memo, April 4, 2003.

⁹³ “Lawyers’ Statement on Bush Administration’s Torture Memos.” 4 Aug. 2004. 1.

⁹⁴ DOJ Memo, August 1, 2002.

⁹⁵ “Lawyers’ Statement on Bush Administration’s Torture Memos.” 4 Aug. 2004. 1.

dealing with the war in Afghanistan.⁹⁶ The memoranda ignores that the treaty, in fact, regulates all conflicts “at any time and in any place whatsoever,” and also defends “unlawful combatants,” people do not qualify as prisoners of war, from “humiliating and degrading treatment” and mutilation, cruel treatment and torture.”⁹⁷ Attorney General John Ashcroft stated that the reason why the administration claimed immunity from the Geneva Convention was to give the American military and law enforcement officers a justification to allegations relating to “field conduct, detention conduct or interrogation of detainees” since their actions are forbidden by the Geneva Convention.^{98 99}

Finally, they condoned the use of mind altering drugs that do not “disrupt profoundly the sense of personality.” As maintained by the memorandum, these drugs must “create a profound disruption... more than that the acts ‘forcibly separate’ or ‘rend’ the senses or personality. Those acts must penetrate to the core of an individual’s ability to perceive the world around him, substantially interfering with his cognitive abilities, or fundamentally alter his personality.”¹⁰⁰

These memoranda and others like them attempt to thwart deep-rooted and universally acknowledged principles of law and morality for the pursuit of power. In addition, the memoranda have gone against the practices of the United States since it goes against the principles fostered in the nation’s annual Human Rights Report. Regardless of how one defines it, torture will always remain torture. In August, 2002,

⁹⁶ White House Counsel Memo, January 25, 2002.

⁹⁷ Geneva Convention Relative to the Treatment of Prisoners of War, Aug. 12, 1949, art. 3 para. 1.

⁹⁸ “Lawyers’ Statement on Bush Administration’s Torture Memos.” 4 Aug. 2004. 2.

⁹⁹ Letter to the President, Feb. 1, 2002.

¹⁰⁰ DOJ memo, August 1, 2002.

Jay S. Bybee, the Assistant Attorney General, Office of Legal Counsel, issued a belated disclaimer in response to public outcry over the memorandum. However, the disclaimer does not take back the abuses that this memorandum has approved or promoted during the two years that it was in effect.¹⁰¹

Furthermore, several major Supreme Court decisions, various statutes passed by Congress, and explicit provisions of the Constitution itself refute the declaration that the President's authority as Commander in Chief allows him to ignore laws, treaties, and the Constitution. To make matters worse, this declaration also transfers this imagined power to those acting on the President's behalf to violate domestic and international law by practicing violent interrogation methods and other obscene behavior. These legal documents fail to acknowledge the many sources of law that their assertions violate, such as the steel seizure case, *Youngstown Sheet and Tube Co. v. Sawyer* that limits the power of the President to seize private property.¹⁰² The unique and poorly researched statement that the Executive Branch is a law unto itself completely contradicts the rule of law and the notion that no one is exempt from the law.¹⁰³

The lawyers who advised and approved these memoranda have acted against their professional obligations. Not only do lawyers have a duty to assist their clients in accomplishing their goals, but lawyers have a duty, as officers of the court and as citizens, to defend and support the law. Lawyers must not only tell their clients what they can do but also what they cannot do. This duty compels all lawyers, and

¹⁰¹ "Lawyers' Statement on Bush Administration's Torture Memos." 4 Aug. 2004. 1-2.

¹⁰² *Youngstown Sheet and Tube Co. v. Sawyer* 343 U.S. 579 (1952)

¹⁰³ "Lawyers' Statement on Bush Administration's Torture Memos." 4 Aug. 2004. 2.

especially those in government service, since their ultimate client is the American people. When representing all Americans, government lawyers must adhere to the Constitution and the law. As a matter of fact, government lawyers take the following oath: "I . . . do solemnly swear that I will support and defend the Constitution of the United States..." ¹⁰⁴

While attorneys of the Department of Justice and lawyers in other governmental agencies have in the past met this standard, current members occupying legal positions in this administration have not only ignored these unconstitutional actions, but frequently attempted to justify them. They have recommended individuals ignore the nation's laws and offered advice to minimize their liability for doing so. By doing this, these lawyers abandoned the standard of their profession and did a great disservice to all American citizens.

Conclusion

The United States Constitution is the government's foundation of law and order. Through its text, laws are constructed and decisions made. Although some areas of the Constitution are vague and require interpretation, the section on the separation of powers is clear. The framers made this section unmistakable because they did not want the United States to be controlled by a king. This standard, coupled with international treaties and policies can also be seen when examining how past Presidents have acted when confronted with wars. While they have all acted in their own way, they all have respected the laws, especially by communicating with Congress. With the help of our government's lawyers, the Bush Administration's actions in response to the events of 9/11

¹⁰⁴ Id at 3.

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have changed the notion of presidential war power from the principle of collective judgment to that of an absolute monarchy.

The American Bar Association's motto is "*Defending Liberty, Pursuing Justice*". Currently, these goals have been disregarded by some of the government's senior lawyers as they have advised the President to act in violation of the Constitution and international law. They have claimed presidential rights that disregard the law, asserted permissibility for illegal and immoral actions, and contrived defenses for lawless procedures. By doing this, these lawyers have shown no respect to the American people, the Constitution, and the principles of justice.



Hayley Bonsteel



Old Serbia or Kosovo Proper: Examining National Liberation in the Balkan Peninsula

Mary Kate Schneider

State and national boundaries in the Balkan Peninsula of southeastern Europe have been shifting for hundreds of years, albeit not necessarily in concordance with one another other. This disparity between state and national boundaries has produced a deeply-rooted nationalist conflict. Divisions between religious and ethnic groups are sharp, and the jagged edges of centuries-old feuds remain relevant today. Kosovo, a small province in southern Serbia sharing borders with Albania, the Former Yugoslav Republic of Macedonia (FYROM), and newly independent Montenegro, is the Balkans' oldest and latest staging ground for nationalist mobilization. In many ways it is the crux of a people's national identity, thereby intensifying its inclination toward bitter and impassioned conflict. Perhaps most importantly, Kosovo is poised to become Europe's next epicenter of national liberation. The circumstances leading up to and surrounding this conflict can be explained in terms of two theories of nationalism: the rational actor assumption, and the principle of self-determination.

Kosovo: A Brief Overview

On the surface, it would appear that disputes over Kosovo and other areas in the Balkans are so ingrained that they are almost tribally rooted, and therefore are an inborn

trait inherent to the regional population. Historical context, however, offers justification for these agendas.

Kosovo is not prized for economic benefits, and it is not fought over for its natural resources or geographic location. The Serbs hold Kosovo dear because Kosovo is where they were met and defeated by the Turkish imperialists who would rule oppressively for six centuries.

Although the province today is predominantly populated by ethnic Albanians (Kosovar Albanians), it remains an autonomous province under greater Serbia (it has also been administered by the United Nations since 1999). Its minority population consists of pockets of Serbs, Turks, and Bosniaks. For the purposes of this discussion, it should be noted that there are two distinct groups of Serbs that play an important role; unless otherwise noted, “the Serbs,” and “Serbians” refer to Serbs living in modern Serbia, and “Kosovar Serbs” refer to a minority group of Kosovars who can claim Serbian ethnicity.

The two primary parties engaged in the territorial dispute over Kosovo are the Serbs and Kosovar Albanians, a dichotomy that can be defined not only ethnically but also religiously and linguistically. The vast majority of Serbs are Eastern Orthodox, while an equally vast majority of Kosovars are Muslims, converted by the Ottoman Turks beginning in the 14th century. The historical relationship between the Turks and Serbs is profound, marked by nearly 600 years of Turkish dominance over the Serbs following the fateful June 28th, 1389 Battle of Kosovo, when the Serbian Prince Lazar Hrebeljanović was killed by the invading Turks on the Plain of Kosovo (Kosovo Polje, meaning “Field of Blackbirds”¹⁰⁵). The outcome

¹⁰⁵ Rebecca West, *Black Lamb and Grey Falcon* (New York: The Viking Press, 1943), 835.

of this battle effectively preserved the prince as a martyr for the defeated Serbian people and transferred Old Serbia in its entirety (including Kosovo) under the domain of the Ottoman Empire. The Ottoman Empire maintained control throughout the Balkans until the Balkan Wars of the early 20th century, when the Balkan League would drive the Turks out of Kosovo during the First Balkan War of 1912.

Prior to the Battle of Kosovo, the territory was simply called Old Serbia. Its inhabitants were predominantly Christian and ethnically Serbian. After the Turks dominated Old Serbia, mass exodus on the part of the Serbs left villages and homes devoid of residents. Albanians migrated into Kosovo to fill the absence left by the original Serbs (Serbs claim that the Albanians have been attempting to “outbreed” them¹⁰⁶). This influx of Albanians was soon converted to Islam by the Turks and began to repopulate the region. This population shift has resulted in both parties claiming that they are the legitimate inhabitants of Kosovo, as the Serbs can claim to have occupied the region for most of history, while the Kosovar Albanians make the argument that Kosovo was abandoned by the Serbs.

Recent Episodes of Nationalist Conflict in Kosovo

The Kosovar conflict reached a boiling point in the 1990s after the post-Cold War break-up of Yugoslavia. As the most egregious offenses of the Balkan Wars had taken place in Bosnia, Croatia, and Serbia between 1992 and 1993, the signing of the Dayton Peace Accords in 1995 lulled the world into a false sense of security within the region. Meanwhile, nationalists in Serbia and Kosovo continued to run rampant,

¹⁰⁶ Robert D. Kaplan, *Balkan Ghosts: A Journey Through History* (New York: St. Martin’s Press, 1993), 34.

fueled by the fire that surrounded them, both literally and figuratively. The overworked Serbian war machine had nearly been bled dry, and paired with the Western world's stringent economic sanctions, the culmination of these factors led to a sharp and painful spike in unemployment and inflation in Serbia.¹⁰⁷ Similar to the domestic circumstances of the ill-fated Weimar Republic, the Serb populace viewed itself as very much the victims of the situation, and this feeling of victimization served to catalyze the already-flowing undercurrents of nationalism.

The same perceived victimization permeated the collective mentality of Kosovar Albanians, as they felt largely ignored and excluded from the Dayton Accords. While Serbian President Slobodan Milosevic was skillful in manipulating his constituency's defeated psyche through the use of nationalist propaganda, Albanians were capitalizing on their own feelings of abandonment by the West, which led to the creation of the Kosovo Liberation Army (KLA). The goals of the KLA were not limited strictly to the Kosovo province; rather, they included the ultimate goal of unification among Albanian peoples in Kosovo, FYROM, and Albania. The KLA was easily portrayed by Serbian elites to the international community as a terrorist organization, which only served to reinforce the Serbian nationalist identity.

Tensions simmered in Serbia and Kosovo through 1998, marked by mutual atrocities. Serbian aggression mounted steadily, evolving into full-scale state military assaults that vastly outweighed the KLA's grassroots and guerilla efforts. Conflict escalated so much so that Kosovo finally attracted the attention of the Western world. On March 24th, 1999, the North

¹⁰⁷ Samantha Power, *A Problem from Hell: America and the Age of Genocide* (New York: Basic Books, 2002), 444.

Atlantic Treaty Organization (NATO) launched a bombing campaign on Serbia. Milosevic surrendered on June 3rd, 1999, soon after NATO introduced its Kosovo Protection Force (KFOR) peacekeeping mission. Concurrently, the United Nations mandated its United Nations Interim Administration Mission in Kosovo (UNMIK), a peacekeeping mission that continues to operate within the province to date.

Theories of Nationalism: Micro- and Macro-Level Perspectives

On the micro-level of analysis, consider the basic assumption that nationalists are rational actors; that is, that they act in accordance with their own self-interest. There are some problems with this assumption, as basic rational actor theory stipulates that the individual's self-interest trumps any collective interests¹⁰⁸—therefore, nationalist behavior by definition would be irrational, because it places the collective interest of the group above any individual motives. However, as Russell Hardin contends, rational action is an inherently subjective notion that cannot be universally defined, and actors act rationally if they do what they believe serves their interest.¹⁰⁹ This suggests that the validity of this theory relies on some agreement as to what, exactly, can be considered the national actor's self interest. On this note, Hardin suggests that, “The rational choice of ethnic, nationalist, or other group loyalty will be compelling if (1) *it often happens that self-interest and group identification are congruent* and if (2) actions that are

¹⁰⁸ Russell Hardin offers a very cursory overview of this concept. See also literature concerning collective action and individual self-interest, particularly Mancur Olson, Thomas Schelling, Armen Alchian and Harold Demsetz, et al.

¹⁰⁹ Russell Hardin, “Self-interest, group identity” in Albert Breton, et al., eds., *Nationalism and Rationality* (Cambridge: Cambridge University Press, 1995), 14.

costly to the individual but beneficial to the group or nation are increasingly less likely the higher the individual costs.”¹¹⁰

At the macro-level, understand that most instances of nationalist conflict involve to some extent the modern state, either as an oppressor or representative of a nation. The modern state is in itself a legal concept more than it is any tangible thing, and its continued existence relies on the international community’s willingness to abide by international law and normative customs (norms). But beyond merely establishing the existence of the modern state as a technical term, it is necessary to consider the concept of self-determination. As a general principle of international law, self-determination can be defined as: “...the right of a people living in a territory to determine the political and legal status of that territory—for example, by setting up a state of their own or choosing to become part of another state.”¹¹¹ Thus, analyses of self-determination as well as the modern state go hand in hand. Still, the details surrounding self-determination have yet to be agreed upon, and so there are numerous ambiguities that need clarification. Who has a right to self-determination, and why? Does self-determination rest in parallel with the state? If so, are stateless nations denied the right to self-determination?

Article 1 of the Charter of the United Nations addresses the issue of nations and self-determination, stating that one of the fundamental purposes of the international organization is to: “...develop friendly relations among nations based on respect for the principle of equal rights and self-determination

¹¹⁰ Ibid, 15 (italics original).

¹¹¹ Peter Malanczuk, *Akehurst’s Modern Introduction to International Law* (New York: Routledge, 1997), 326.

of peoples..."¹¹² Interpreted literally, it would appear that international law, or at the very least international norms, requires that self-determination not be restricted to states whose sovereignty has the benefit of legal recognition. This quickly poses a problem, because once something becomes a universal entitlement, it becomes very difficult to delineate where one nation's right to self-determination begins and another nation's ends. Daniel Patrick Moynihan, U.S. Senator, U.N. Ambassador, and sociologist, somewhat sarcastically criticizes universal self-determination when he says that, "...the tribes would demand self-determination. *It was, after all, their right*, enshrined in the United Nations Charter."¹¹³

Theories of Nationalism and Kosovo

Applications of the theory of nationalist rational self-interest in Kosovo are ambiguous, in that self-interest is subjectively defined. According to the realist theory of international relations, the primary interest of the state is the security of the state. At both the individual or nationalist level, this means that the security (preservation) of the individual or nation is the primary interest of individuals and nations. The self-interested Kosovar Albanian is rational when he acts in such a manner as to preserve the Kosovar nation, and this is sufficient justification for nationalist movements such as the KLA to exist and operate. The ambiguity lies in the fact that just as the Kosovar Albanian's self-interest is subjectively defined, so too is the self-interest of the Serbs. The Serbs are equally motivated by their own national self-preservation as are the Kosovars, so while it is possible for

¹¹² *Charter of the United Nations*, available at:
<http://www.un.org/aboutun/charter>

¹¹³ Daniel Patrick Moynihan, *Pandaemonium* (Oxford: Oxford University Press, 1993), 66 (emphasis added).

both parties to be acting rationally at all times, it is not possible to escape the stalemate between Serbian and Kosovar Albanian nationalist motivations that occurs through the application of this theory.

However, to characterize the conflict in the Balkans as inescapable is to deny the situation's essential human component—Robert Kaplan calls this effect “dehumanizing.”¹¹⁴ Therefore, because the motivations of Kosovar and opposing Serb nationalists can be explained in terms of serving their individual rational self-interest, it would be fallacious to assume that the fault line dividing Kosovars and Serbs is ineffaceable. It is possible that nationalist differences can be reduced to micro-level security dilemmas; the only distinction is that rather than requiring states to play the key actors, they involve people. The trick is, then, to strike a more fine-tuned balance of power. In this vein, Barry Posen discusses the “disappearance” of sovereigns, mentioning Yugoslavia in particular.¹¹⁵ The absence of sovereigns implies anarchy, and a state of anarchy both instigates and perpetuates the security dilemma. The role of anarchy applies to states as well as nations, as both entities can be threatened out of existence by a more powerful state or nation. However, because the balance of power between nations often involves different kinds of variables than the balance of power among states (for example, nations must account for their psychological make-up in addition to their defense capabilities), more focused effort is required to establish and maintain balance.

¹¹⁴ Kaplan, “Why the Balkans Demand Amorality.” *The Washington Post* (February 28th, 1999) in Kaplan, *Balkan Ghosts*, xx.

¹¹⁵ Barry Posen, “The Security Dilemma and Ethnic Conflict,” *Survival* 35:1 (1993), 28.

The other side of rational self-interest as it relates to nationalism raises the question: at what point does the interest of the group overwhelm the self-interest of the individual? Hardin relates a scenario in which a Croatian during the Bosnian wars says, “I really don’t hate Muslims—but because of the situation, I want to kill them all.”¹¹⁶ Here, the Croatian was forced to deny his initial self-interest, which was to wait out the war without getting directly involved, in favor of his secondary self-interest, which is to maintain his insider position within the community. The Croatian’s group membership protected him from being targeted but instead required him to sacrifice some element of his self-interest.

In light of the possibility that the interest of the group can override individual self-interest, Samantha Power’s analysis of ground-level activity in Serbia during the 1999 NATO bombing campaign is insightful: “Serb units began to mutiny and to desert. They did not want to die for Kosovo, and they certainly did not want to die for Milosevic.”¹¹⁷ This shift in loyalties hints at the lack of individual-level nationalist commitment held by the Serbs in 1999, and the fact that their supposed individual self-interest is so susceptible to external elements asks the question of whether or not this theory is well-suited to explaining nationalist motivations surrounding Kosovo.

Taking a step back from individual rationality, consider the larger question of self-determination as it applies to Kosovo. Although its legal position is that of an autonomous province under the dominion of Serbia proper, Kosovo is presently administered by the United Nations under UNMIK, and has been since 1999. Kosovar Albanians, of whom

¹¹⁶ Hardin, 35.

¹¹⁷ Power, 459.

approximately 90% of the population of Kosovo is comprised¹¹⁸, have indicated through numerous outlets that they would prefer to sever their connection to Serbia. Considering the fact that the physical territory is already occupied and governed by non-Serbs, it seems logical that Kosovo should be granted *de jure* sovereignty and the permission to act as a self-governing state, since much of this is already fulfilled on a *de facto* basis. However, if Kosovo does indeed have a right to self-determination, that right infringes on Serbia's equal right to self-determination. Both nations have laid claim to the land. If the assumption is that the right to self-determination is truly universal, it should follow that few nations will ever enjoy self-determination to the fullest possible extent, because one nation's rights will always overlap another's.

Other considerations for self-determination in Kosovo include a potential independence referendum. It is difficult to determine who should have the right to participate in such a referendum, because its implications are so widespread. As Kosovar Serbs and other ethnic groups within Kosovo are outnumbered roughly 9 to 1 by Kosovar Albanians, the likely outcome of a referendum that only permits citizens of Kosovo to vote should be fairly obvious. But if Serbia's historical claim to Kosovo is legitimate, should not Serbs have the right to vote as well? If that were the case, then pro-independence Kosovar Albanians would be severely outnumbered, and again, the outcome of the referendum should be obvious.

Evaluations and Inferences

Although nationalist divisions within the Balkan region have existed throughout history, the fact that they continue to

¹¹⁸ Power, 445.

exist today is significant, and highlights the possibility that nationalist identities may burn more brightly than any other allegiances.

Particularly pressing issues are the possibility of an independence referendum in the near future¹¹⁹, and the effect that that might have on the accession of Serbia proper and/or the newly-created Kosovar state to the European Union (EU). It is ironic to note that there appears to be a paradoxical outcome to this situation: for Serbia to join the EU, it is expected that Serbia will resolve the conflict over Kosovo. However, by drawing such attention to the conflict, Serbs and Kosovars alike are doing the political equivalent of rubbing salt in each other's ancient wounds, constantly reminding themselves of both parties' offenses. This, in turn, will exacerbate the nationalist movements, Serbia has the option to willfully rescind its claim over Kosovo and acknowledge the Kosovar Albanians' right to self-determination, thereby serving the Serbian self-interest of increased likelihood of accession to the EU. Should Serbia choose this option, it must make a concerted, genuine effort to contain grassroots-level Serb nationalist violence against Kosovars. This represents the sacrifice of one Serbian interest in favor of another; for it to be successful, the Serbian government's preference of EU membership over possession of Kosovo must be accepted by the Serb people.

Serbia's alternative option is to maintain its interest in controlling Kosovo above and beyond all other preferences. Again, for this to be nationally supported (which it must be, for it to be successful, given the propensity for violence), the

¹¹⁹ Joachim Rücker, UN Special Representative of the Secretary-General, has urged a swift resolution of Kosovo's status, preferably sooner than the January 21st, 2007 general elections scheduled to take place in Serbia (Source: UNMIK News, <http://www.unmikonline.org/news.htm#1312>).

Serbian government must convince the Serb people that it is in their rational self-interest to maintain Kosovo. As the Serbs have previously demonstrated an unwillingness to die for Kosovo, it is not likely that this will survive as a long-term Serbian policy. Additionally, the Serbs cannot maintain more than one primary interest, and it is not probable that Serbia will reverse on its attempts to gain EU membership. It appears that the Kosovars are the ones who can afford to sit and wait things out, as it is popularly understood that Serbia will be forced to recognize the new Kosovo's territorial identity as the cost of joining the EU.¹²⁰ The likelihood of a successful independence referendum is high, especially when considered in light of Montenegro's recent bid for independence.

The Albanian Kosovars' drive toward self-determination has proven more adept at providing stronger nationalist cohesion than Serbian self-interest. During the 1999 NATO strikes, Serbs took the opportunity to retaliate against Albanian Kosovars, relentlessly massacring and burning villages to the ground for nearly three months. However, as Serbs in Serbia grew weary of the battle and began to defect under Milosevic, Albanian Kosovars maintained the integrity of their movement and did not waver from their cause. Rather, hard as it was to see Kosovo as victorious when the price ha[d] been entire families [of Kosovar Albanians], the Kosovar Albanian survivors treated these sacrifices as the price of freedom.¹²¹

¹²⁰ "A Province Prepares to Depart," *The Economist* (November 2nd, 2006)

¹²¹ Power, 460.

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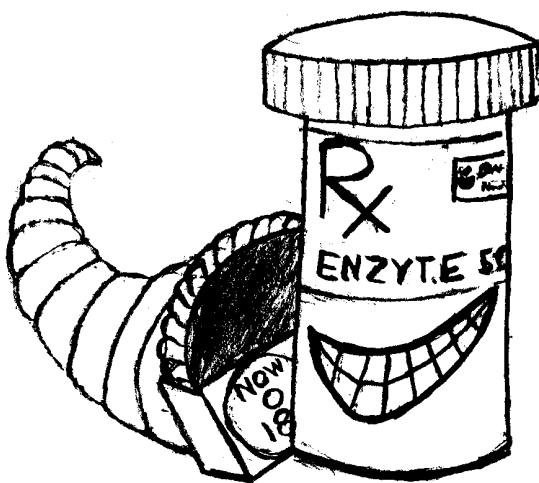
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CMG

Colin Gore



Advertising the American Dream

Kristen Merlo

The collective fantasy of the American Dream is a central aspect of the American lifestyle. This social ideal, however, is not as universal as often assumed. Jack Solomon identifies the duality of the American Dream through a cultural analysis of consumerism: "The one [face of the American Dream] communally egalitarian and the other competitively elitist" (Solomon, 160). This multifaceted notion of the American Dream is demonstrated through advertising, as the Dream's depiction differs in its portrayal depending on the demographic group to which it is presented. The progression and eventual regression of the populist versus elitist American Dream throughout a lifetime is exemplified through advertising aimed at specific portions of the population.

Beginning with the distribution of the Sears-Roebuck Catalog in the 1890's, advertising has played an important cultural role in the American experience. Dubbed "America's wish book," the Sears-Roebuck Catalog established perceptions of pure wealth, success, and happiness in the minds of struggling American farmers. The catalog – along with the imaginations of the farmers – depicted "urban consumption as a route toward cornucopian existence." It was a monumental publication in that it put the American Dream into paper form for all the country to see and helped advertising to emerge as "a kind of urban map, suggesting a world of streets paved with gold" (Ewen).

Advertising as a demonstration of the American Dream did not stop with the Sears-Roebuck Catalog; rather, it escalated through newspaper, radio and television, and is in full-force in the technologically-dominated society of today. Consumerism is representative of desire, and this desire parallels the abstract idea of the American Dream:

By semiotically reading the signs that advertising agencies manufacture to stimulate consumption, we can plot the precise state of desire in the audiences to which they are addressed. Let's look at a representative sample of ads and what they say about the emotional climate of the country and the fast-changing trends of American life. Because ours is a highly diverse, pluralistic society, various advertisements may say different things depending on their intended audiences, but in every case they say something about America, about the status of our hopes, fears, desires, and beliefs.

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This “status of our hopes, fears, desires, and beliefs” becomes increasingly important in one’s attempts to define the American Dream as a universal concept. Do all Americans share these same hopes, fears, desires, and dreams? Semiotician Jack Solomon argues against the universality of the Dream, describing “this swing between elitist and populist approaches in advertising” as a reflection of “a basic division within the American Dream itself, a mythic promise that at once celebrates democratic equality *and* encourages you to rise above the crowd, to be better than anyone else” (147-48). Solomon’s essential split of the appeals of consumerism into aspects of elitism versus populism defines the duality of the concept of the American Dream.

An effective evaluation of this duality is exemplified through advertising aimed at specific portions of the population. For instance, the populist appeal can be observed

in advertising directed towards children, where the focus of television commercials often stress “fitting in,” and needing a product because “everyone else has it.” Television commercials which advertise toys depict children playing together with action figures, dolls, or board games. A child is never pictured alone playing with such a “cool product;” rather, it can be inferred that by having a certain product, a child will be more likely to fit in and have friends. Brainwashed from a young age and lacking the “ability to apply a filter to marketing aimed at them,” children grow up in an era of information overload and constant consumer stimulation (Meltz).

The advertising directed at children is especially manipulative due to childrens’ level of cognitive and neurological development and the recognition by advertisers of their vulnerability. Eric Schlosser discusses juvenile nagging tactics in his article, “Kid Kustomers,” defining “pity naggings” as claims that “the child will be heartbroken, teased, or socially stunted if the parent refuses to buy a certain item” (183). There is certainly a populist appeal here, as a necessity for feelings of belonging and inclusion are expressed. Highly demonstrative of populist children’s advertising in action are the television commercials for KidzBop compact discs which compile all of today’s “hottest music” with a fun, kid-oriented feel. Such commercials depict large groups of happy children singing and dancing together to their favorite songs. Everyone listening to the music is included and having a great time. There is no evidence of a superior child; and interestingly enough, a variety of ages and ethnicities are depicted (KidzBop). Likewise, past commercials for SkipIt and PushPop have utilized similar techniques of large-scale fun and inclusion.

If the populist advertising in the world of children manifests the “hopes, fears, desires, and beliefs” of children, the notion of the American Dream begins to change in accordance with the change in advertising directed towards the teenage population. While the products marketed toward children are promoted through the ideals of populism and inclusion, the American Dream takes on a dynamic approach as the consumer market of adolescence promotes both populism and elitism. Adolescence can be recognized as a time of intense social conformity or as a period of rebellion – and the market plays on both of these appeals. Society endorses the American Dream of the teenage years as a time to fit in and blend, but also to stand out and become the best and most popular. In a time of social, emotional, and consumer confusion, Roland Marchand’s “Parable of The Democracy of Goods” helps explain pursuing the best, while maintaining egalitarian status:

By implicitly defining “democracy” in terms of equal access to consumer products, and then by depicting the everyday functioning of that “democracy” with regard to one product at a time, these tableaux offered Americans an inviting vision of their society as one of incontestable equality. Marchand 151

Thus, “Parable of the Democracy of Goods” serves as the linkage between the populist and elitist advertisements of the teenage market.

In a study conducted by Moniek Buijzen and Patti M. Valkenburg entitled “Appeals in television advertising: A content analysis of commercials aimed at children and teenagers,” various conclusions were reached which express the duality of the American Dream in teenage advertising. Interestingly, Buijzen and Valkenburg identified the populist

appeal with female teenagers and the elitist appeal with male teenagers, stating, “Having the best, competition, and achievement were the dominant appeals in commercials aimed at male teenagers, whereas romance, sexuality, and belonging to a group were emphasized in commercials aimed at female teenagers” (349).

Solomon identifies a McDonald’s advertisement as exemplary of the populist teenage approach: “we may catch a glimpse of a hamburger or two, but what we are really shown is a teenage fantasy: groups of hip and happy adolescents singing, dancing, and cavorting together” (165). In contrast, the advertisements for products such as UnderArmor and Gatorade depict the teenage appeal of elitism –striving to be the best. They promote excellence, competition, and winning – convincing consumers that these products are necessary to succeed – a critical component of the American Dream, for some.

As the duality of the American Dream appeals to members of the teenage market, the elitism approach becomes increasingly prevalent among advertisements directed at adults. From high-class refrigerators to luxury vehicles and classy vacation packages, the adult population craves status symbols as part of their definition of the American Dream. Alexis de Tocqueville has the population pinned with his recognition of “the competitive nature of democratic societies” as breeding “a desire for social distinction, a yearning to rise above the crowd” (Tocqueville). Semiotician Jack Solomon goes onto explain the differences between American elitist society and others as American elitists lack distinctive facial expressions or aristocratic symbols that other cultures possess. Tocqueville continues, “Status symbols, then, are signs that identify their possessor’s place in a social hierarchy, markers of rank and prestige ... The object itself doesn’t really matter,

since it ultimately disappears behind the presumed social potency of its owner" (Solomon 162). During a period of life focused on work, monetary reward, and financial success, the adult population defines its American Dream with desires to be the very best and to achieve distinction.

As an almost direct contradiction to the affluent, elitist-seeking lifestyle of an adult member of American society, the elderly consumer perceives the marketplace and the Dream with a differing set of values and desires. Whereas advertisements aimed at the adult population suggest prosperity and superiority, advertisements for products directed towards senior-citizens "reflect the lack of respect and fear of aging – in short, the ageism – typical of the media's treatment of older people." Often represented as "the prevailing stereotype of seniors as bumbling, crotchety, or senile," advertising and entertainment do not present the American Dream for the elderly in the same way as for other portions of the population (Wood). The appeal of the advertisements directed towards seniors is representative of the populist approach, and acts as a type of consumer regression throughout a lifetime. Seniors must deal with the struggles of adapting to a lifestyle in which they are no longer independent and often face deteriorating health and psychological ailments. Over the years, advertisers have recognized the statuses of the elderly's "hopes, fears, desires, and beliefs," and have created the sense of a populist appeal in advertising. Dave Collis explains the harsh reality that "Our society notoriously finds little use for the elderly. It defines them as useless, forces them to retire before they have exhausted their capacity for work, and reinforces their sense of superfluity at every opportunity" (Collis). However, when approached with populist ideals and the goal to include

members of the over-fifty age group, advertisers succeed in the marketing of their products.

For instance, a television commercial for The Scooter Store, “America’s leading supplier of scooters and power chairs for people with limited mobility,” is often aired during television programming such as *The Price is Right* and other shows which are viewed by the elderly population. The approach of this scooter commercial is certainly populist. It includes shots of senior citizens out and about in the community and interacting with their families and members of society. Without the scooter, the commercial suggests, the elderly people depicted would be stranded in their homes – alone and depressed. Advertising directed towards the elderly population has come a long way over the years, as new tactics suggest the guidelines: “Instead of a message that says, ‘I feel terrible, give me product X,’ we welcome ads that say, ‘I feel great with product X’” (Wood). The realization of inclusion as a fundamental aspect of the American Dream at the senior citizen age becomes apparent through advertising in which the elderly population is encouraged – with the help of certain products – to regain position and take part in society.

Thus, this dynamic notion of the American Dream has established itself as a cyclic component of the societal lifestyle. Advertising becomes an interestingly important and useful tool in the examination of the ever-changing facets of the Dream –as it helps to identify the populist and elitist approaches in the world of consumerism. Beginning with a populist appeal for children and then morphing into a mélange of populist and elitist for teens, the American Dream demonstrates itself as a lively component of society. The adult population is drawn to the elitist approach. Due to ageism, advertising appeals revert back to the elementary notion of populism.

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